ORDER NO. HAD83122677C8

Service Manual

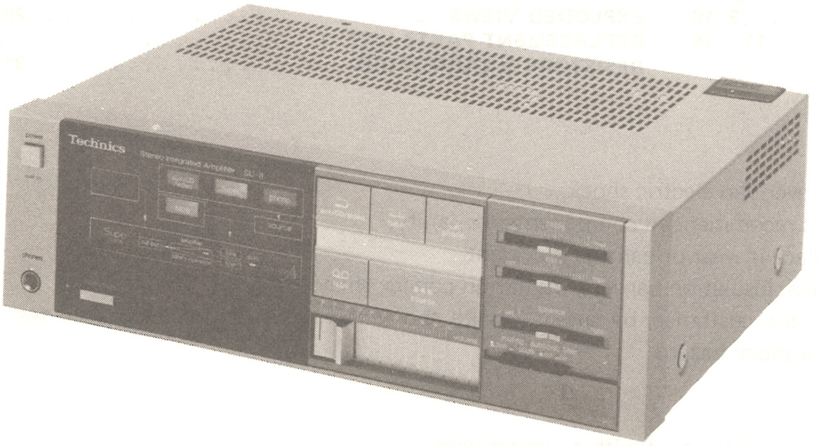
Stereo Integrated Amplifier

SU-8

[EX], [EGA], [EH], [EB]
[EW], [EF], [EK], [Ei]
[XA], [XL]

SU-8 (K)

[EX], [EGA], [EH], [EW]
[EK], [XA]



Areas

- * [EX] is available in Scandinavia.
- * [EGA] is available in F.R. Germany.
- * [EH] is available in Holland.
- * [EB] is available in Belgium.
- * [EW] is available in Switzerland.
- * [EF] is available in France.
- * [EK] is available in United Kingdom.
- * [Ei] is available in Italy.
- * [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.
- * [XL] is available in Australia.

* The colors of this model include silver and black.
* The black type model is indicated by (K) in the Service Manual.

Specifications

(Specifications are subject to change without notice for further improvement.)

(DIN 45 500)

■ AMPLIFIER SECTION

20 Hz~20 kHz continuous power output	
both channels driven	2 × 65W (8Ω)
1 kHz continuous power output	
both channels driven	2 × 75W (8Ω)
Total harmonic distortion	
rated power at 20 Hz~20 kHz	0.03% (8Ω)
rated power at 1 kHz	0.8% (8Ω)
half power at 20 Hz~20 kHz	0.03% (8Ω)
half power at 1 kHz	0.005% (8Ω)
Intermodulation distortion	
rated power at 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0.03%
Power bandwidth	
both channels driven, −3 dB	10 Hz~30 kHz (8Ω)
Residual hum and noise	0.7 mV
Damping factor	50 (8Ω)
Input sensitivity and impedance	
PHONO	2.5 mV/47kΩ
TUNER, AUX/CD/VIDEO	150 mV/27kΩ
TAPE	150 mV/27kΩ
PHONO maximum input voltage (1 kHz, RMS)	150 mV
S/N	
rated power (8Ω)	
PHONO	78 dB (IHF, A: 81 dB)
TUNER, AUX/CD/VIDEO, TAPE	89 dB (IHF, A: 98 dB)
Frequency response	
PHONO	RIAA standard curve ±0.8 dB (30 Hz~15 kHz)
TUNER, AUX/CD/VIDEO, TAPE	10 Hz~120 kHz (−3 dB)
Tone controls	
BASS	50 Hz, +10 dB~ −10 dB
TREBLE	20 kHz, +10 dB~ −10 dB
Output voltage and impedance	
REC OUT	150 mV
Channel balance, AUX/CD/VIDEO 250 Hz~6,300 Hz	±1 dB
Channel separation, AUX/CD/VIDEO 1 kHz	55 dB
Headphones output level and impedance	580 mV/330Ω
Load impedance	8Ω~16Ω

■ GENERAL

Power consumption	360W
Power supply	
For United Kingdom and Australia	AC 50Hz/60 Hz, 240V
For continental Europe	AC 50 Hz/60 Hz, 220V
For other areas	AC 50 Hz/60 Hz, 110V/120V/220V/240V
Dimensions (W×H×D)	315 × 99 × 245 mm (12-13/32" × 8-29/32" × 9-21/32")
Weight	5.8 kg (12.8 lb.)

Note:
Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

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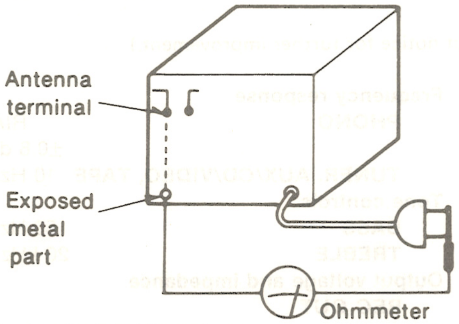
SAFETY PRECAUTION

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

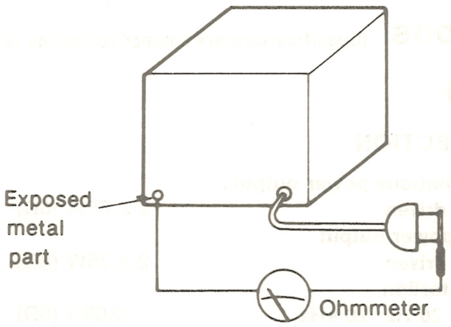
• INSULATION RESISTANCE TEST

1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



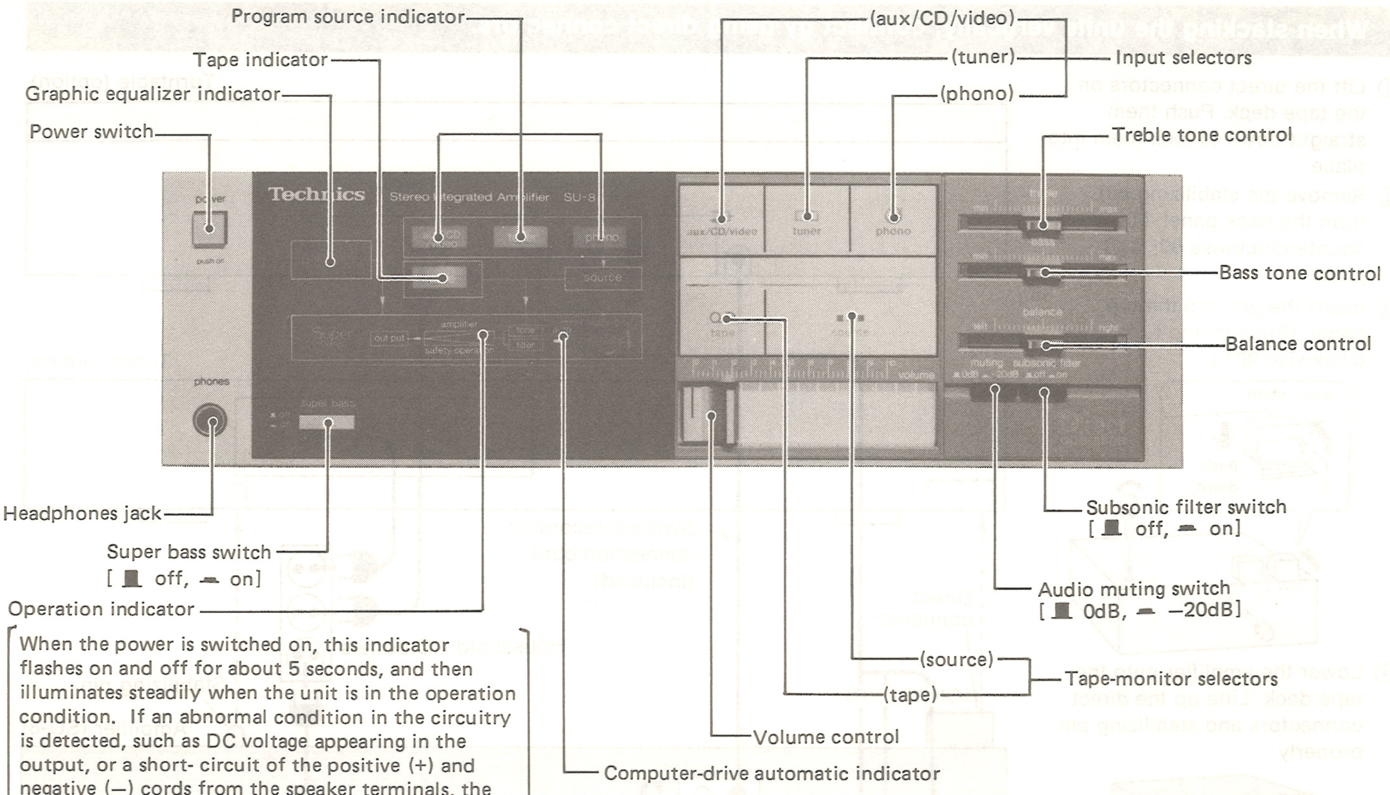
(Fig. A)
Resistance = 3MΩ—5.2MΩ



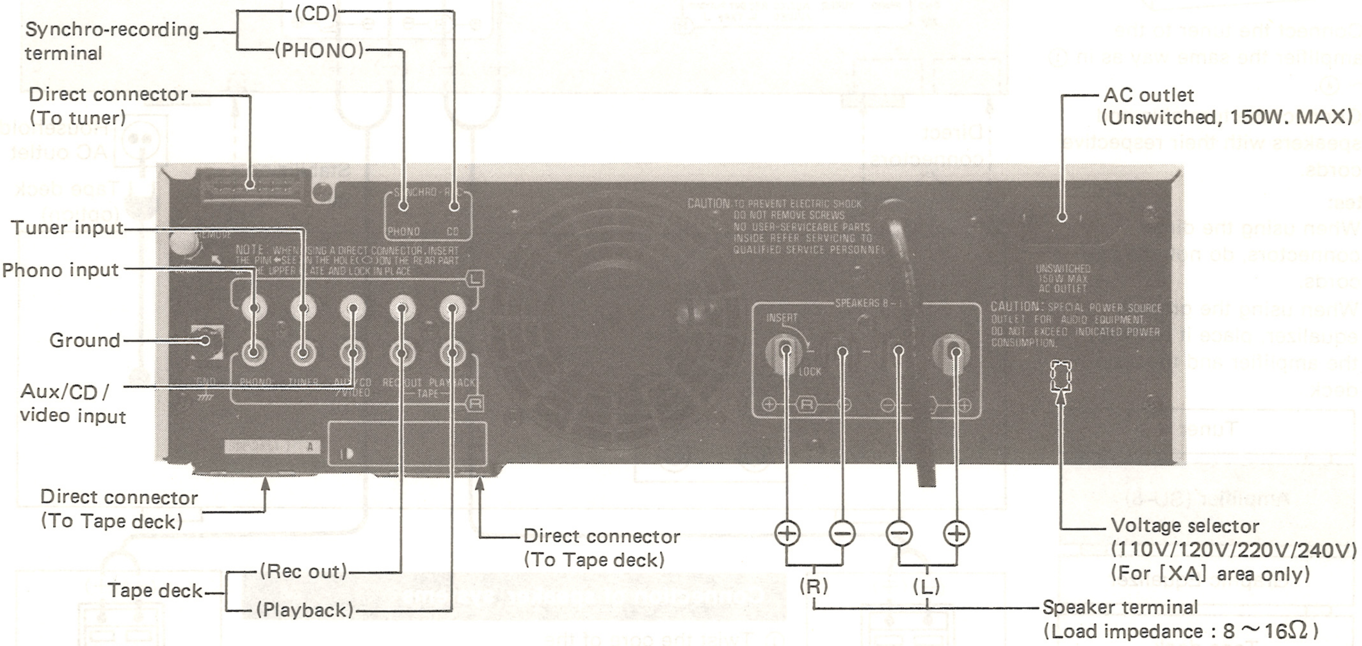
(Fig. B)
Resistance = Approx ∞

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

LOCATION OF CONTROLS


Program source indicator
Tape indicator
Graphic equalizer indicator
Power switch
(aux/CD/video)
(tuner)
(phono)
Input selectors
Treble tone control
Bass tone control
Balance control
Technics Stereo Integrated Amplifier SU-8
Headphones jack
Super bass switch
[▮ off, ▬ on]
Operation indicator
Subsonic filter switch
[▮ off, ▬ on]
Audio muting switch
[▮ 0dB, ▬ −20dB]
(source)
(tape)
Tape-monitor selectors
Volume control
Computer-drive automatic indicator

When the power is switched on, this indicator flashes on and off for about 5 seconds, and then illuminates steadily when the unit is in the operation condition. If an abnormal condition in the circuitry is detected, such as DC voltage appearing in the output, or a short-circuit of the positive (+) and negative (−) cords from the speaker terminals, the protection circuit functions and this indicator flashes rapidly. If this occurs, switch the power off, find the cause of the trouble and correct it, and then switch the power on once again.


Synchro-recording terminal
(CD)
(PHONO)
Direct connector (To tuner)
Tuner input
Phono input
Ground
Aux/CD / video input
Direct connector (To Tape deck)
Tape deck
(Rec out)
(Playback)
Direct connector (To Tape deck)
AC outlet (Unswitched, 150W. MAX)
Voltage selector (110V/120V/220V/240V) (For [XA] area only)
⊕ ⊖ ⊖ ⊕
(R)
(L)
Speaker terminal (Load impedance : 8 ~ 16Ω)

- The power supply for this unit varies depending upon the areas. Also, the parts used for power supply are different. So, refer to the circuit diagram and the replacement parts list.

* 220V (50/60Hz) for continental Europe. (Except for United Kingdom)
* 240V (50/60Hz) for Australia and United Kingdom.
* 110V/120V/220V/240V (50/60Hz) for other areas. (For other areas are provided with voltage selector)
* Phono input capacitance is about 150pF.

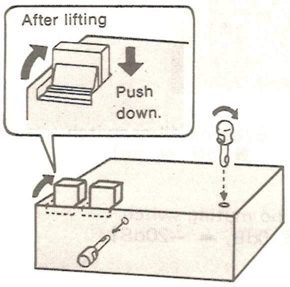
STEREO SYSTEM COMPONENTS AND THEIR CONNECTIONS

When stacking the units vertically, connect by using direct connectors.

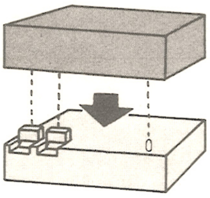
① Lift the direct connectors on the tape deck. Push them straight down to lock them into place.

② Remove the stabilizing pin from the back panel. (Turn counterclockwise 90° and pull.)

③ Insert the pin into the top panel. (Push in and turn clockwise 90°.)


After lifting
Push down.

④ Lower the amplifier onto the tape deck. Line up the direct connectors and stabilizing pin properly.

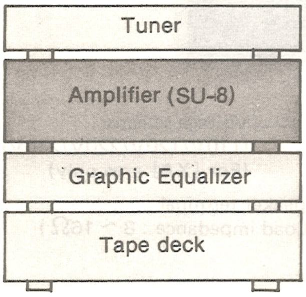


⑤ Connect the tuner to the amplifier the same way as in ① ~ ④.

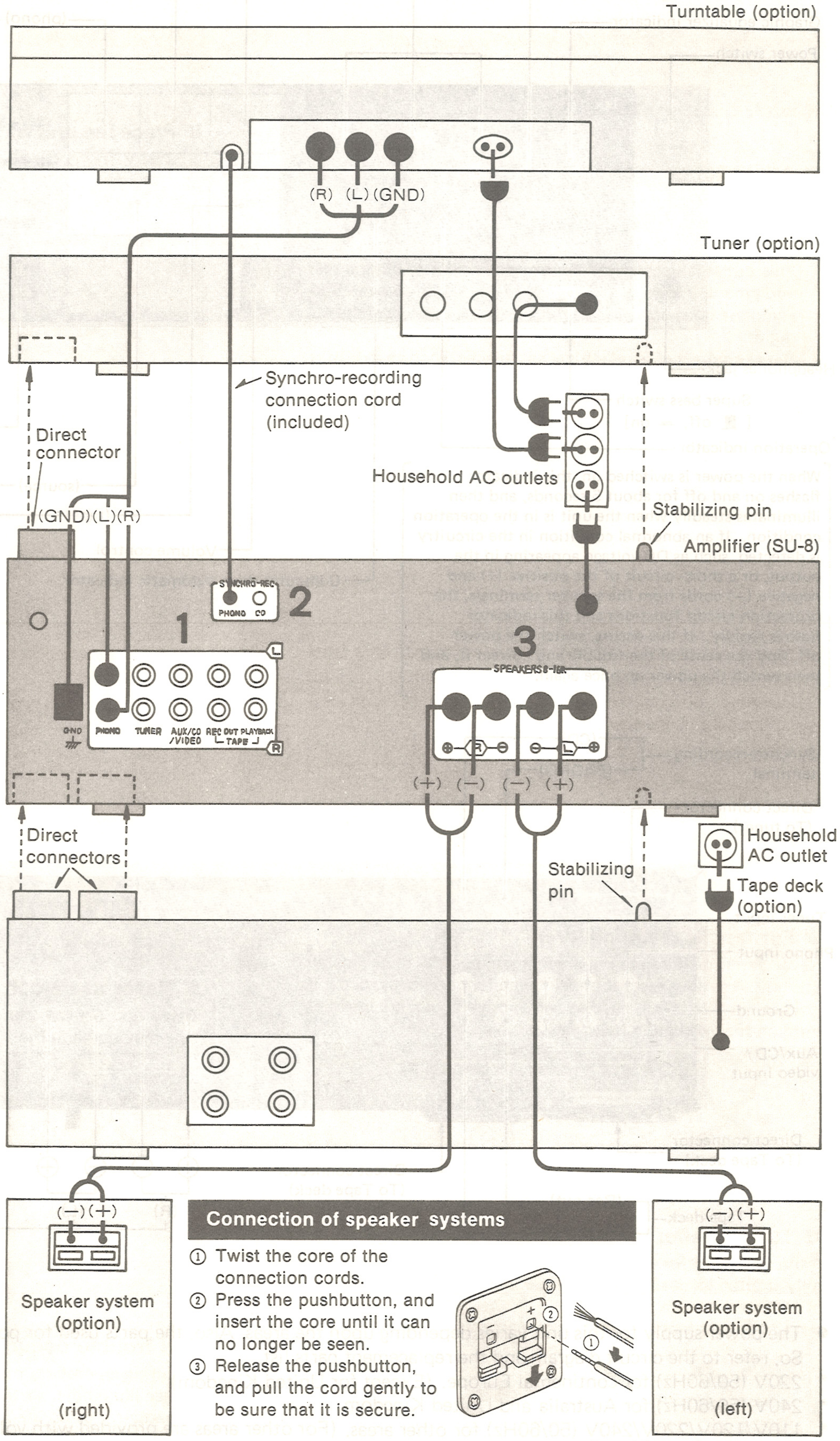
⑥ Connect the turntable and speakers with their respective cords.

Notes:

1. When using the direct connectors, do not use pin cords.
2. When using the graphic equalizer, place it between the amplifier and the tape deck.


Tuner
Amplifier (SU-8)
Graphic Equalizer
Tape deck

3. Position the units in a straight column to avoid twisting and breaking the direct connectors.
4. If this unit is installed in a rack, first make the direct connector connections.


Turntable (option)
(R) (L) (GND)
Tuner (option)
Synchro-recording connection cord (included)
Direct connector
Household AC outlets
Stabilizing pin
Amplifier (SU-8)
(GND)(L)(R)
SYNCHRO-REC
PHONO
CD
2
1
3
L
R
GND
PHONO
TUNER
AUX/CD /VIDEO
REC OUT
PLAYBACK
TAPE
SPEAKERS 8-16Ω
⊕ R ⊖
⊖ L ⊕
(+) (−) (−) (+)
Direct connectors
Stabilizing pin
Household AC outlet
Tape deck (option)
(−)(+)
Speaker system (option)
(right)
(−)(+)
Speaker system (option)
(left)
①
②

Connection of speaker systems

① Twist the core of the connection cords.

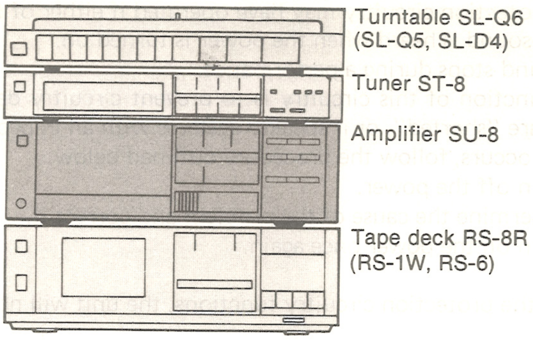
② Press the pushbutton, and insert the core until it can no longer be seen.

③ Release the pushbutton, and pull the cord gently to be sure that it is secure.

Load impedance: 8~16Ω

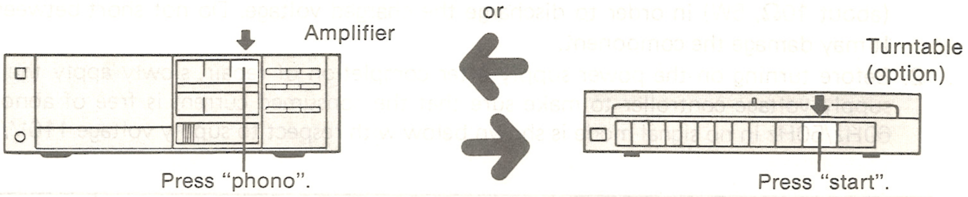
DIRECT OPERATION

"Direct operation" means that, once each component has been prepared for operation, any operation can be conveniently selected and started by one-touch operation.
This function is possible only by the combination of Technics components shown in the figure at the right, and which have been connected by direct connectors.
Operation at the amplifier, or at the individual components, is possible.


Turntable SL-Q6
(SL-Q5, SL-D4)
Tuner ST-8
Amplifier SU-8
Tape deck RS-8R
(RS-1W, RS-6)

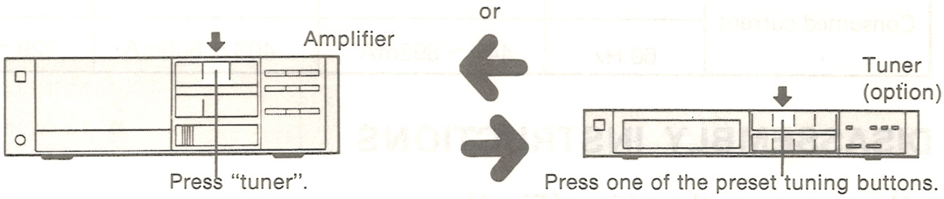
- **To listen to discs...**

Press the "phono" button on the amplifier or the "start" button on the turntable.


Amplifier
or
Turntable
(option)
Press "phono".
Press "start".

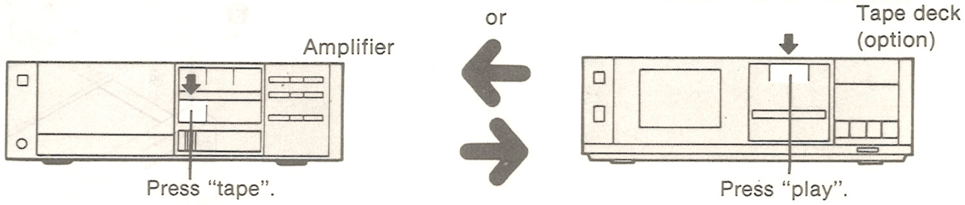
- **To listen to radio broadcasts...**

Press the "tuner" button on the amplifier or one of the preset tuning buttons on the tuner.


Amplifier
or
Tuner
(option)
Press "tuner".
Press one of the preset tuning buttons.

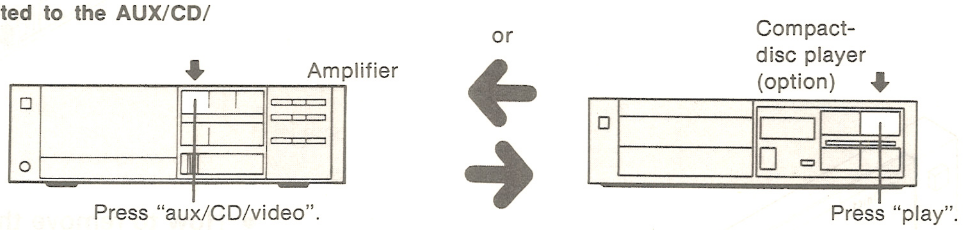
- **To listen to a tape...**

Press the "tape" button on the amplifier or the "play" button on the tape deck.


Amplifier
or
Tape deck
(option)
Press "tape".
Press "play".

- **To listen to a compact-disc player...**
(To listen to the component connected to the AUX/CD/VIDEO terminal on the rear panel)

Press the "aux/CD/video" button on the amplifier or the "play" button on the compact-disc player.


Amplifier
or
Compact-
disc player
(option)
Press "aux/CD/video".
Press "play".

Notes:

1. Do not switch the tuner on while playing a disc or tape, or while tape recording, because to do so will cause the "tuner" input selector to be automatically activated.
2. If, while listening to a disc or radio broadcast, the tape deck is switched off and the tape indicator is illuminated, press the tape-monitor selector marked "source".
3. Even though another input selector is pressed while listening to a turntable or a compact-disc player, the turntable or compact-disc player will continue to operate; be sure to stop it.

PROTECTION CIRCUITRY

The protection circuitry may have operated if either of the following conditions is noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.
If this occurs, follow the procedure outlined below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again.

Note:
When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

BEFORE REPAIR AND ADJUSTMENT

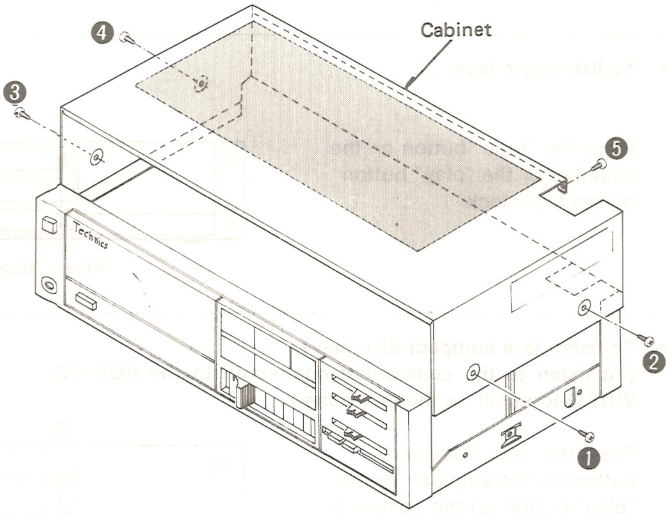
1. Turn off the power supply and short-circuit of power supply capacitors (C401, C402, 56V 10000μF) at resistance (about 10Ω, 5W) in order to discharge the charged voltage. Do not short between C401, C402 by screwdriver.
   It may damage the component.
2. Before turning on the power supply after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current is free of abnormality. The consumed current at 60Hz/50Hz in no signal mode is shown below with respect to supply voltage 110V/120V/220V/240V.

Power supply voltage		AC110V	AC120V	AC220V	AC240V
Consumed current	50 Hz	462 ~ 924mA	410 ~ 820mA	242 ~ 484mA	222 ~ 444mA
	60 Hz	446 ~ 892mA	403 ~ 806mA	229 ~ 458mA	198 ~ 396mA

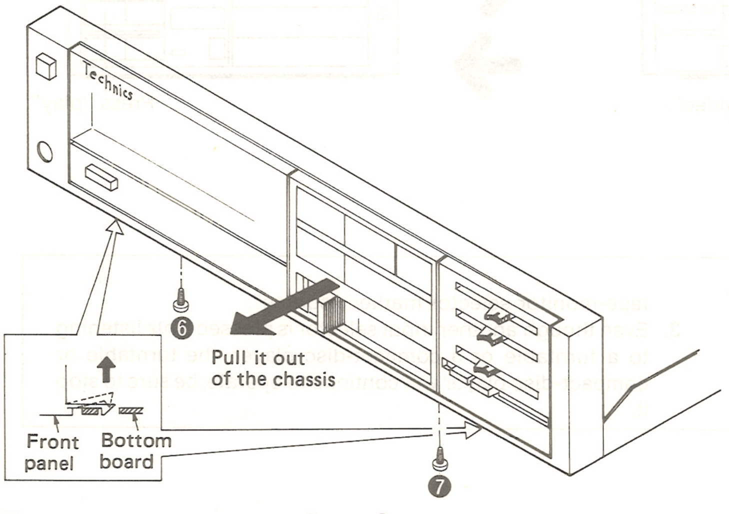
DISASSEMBLY INSTRUCTIONS

• How to remove the cabinet [Fig. 1]

1. Remove the 5 setscrews (Fig. 1: ❶ ~ ❺) on the side and rear of the cabinet.



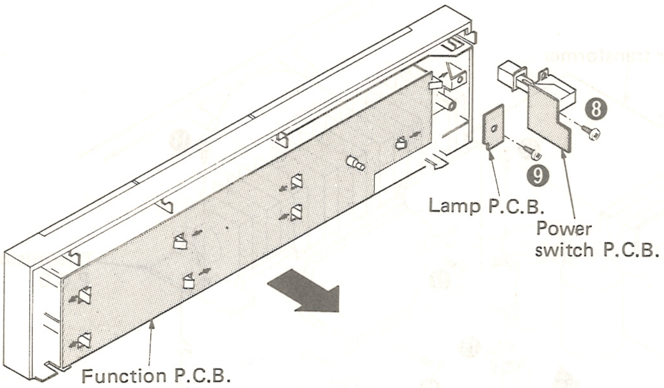
[Fig. 1]



[Fig. 2]

• How to remove the front panel [Fig. 2 ~ 4]

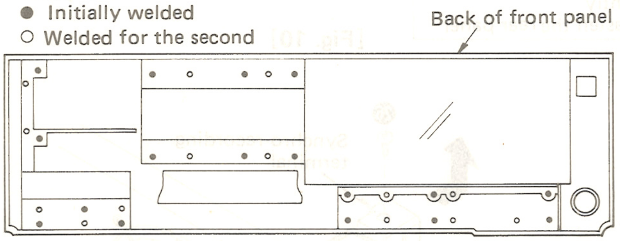
1. Remove the cabinet.
2. Remove the 2 setscrews (Fig. 2: ❻, ❼) and release the 2 claws under the front panel.
3. Remove the setscrew (Fig. 3: ❽) of power switch P.C.B. Then remove the power switch.
4. Remove the setscrew (Fig. 3: ❾) of lamp P.C.B.
5. Replace the 7 claws which fasten the function P.C.B. to the front panel in the directions of the arrows as in Fig. 3. Then remove the function P.C.B. from the front panel.
6. Remove the 2 setscrews (Fig. 4: ❿, ⓫) of input selector switch P.C.B., and release the 4 claws in the directions of the arrows, then remove the switch P.C.B. from the front panel.


⑧
⑨
Lamp P.C.B.
Power switch P.C.B.
Function P.C.B.

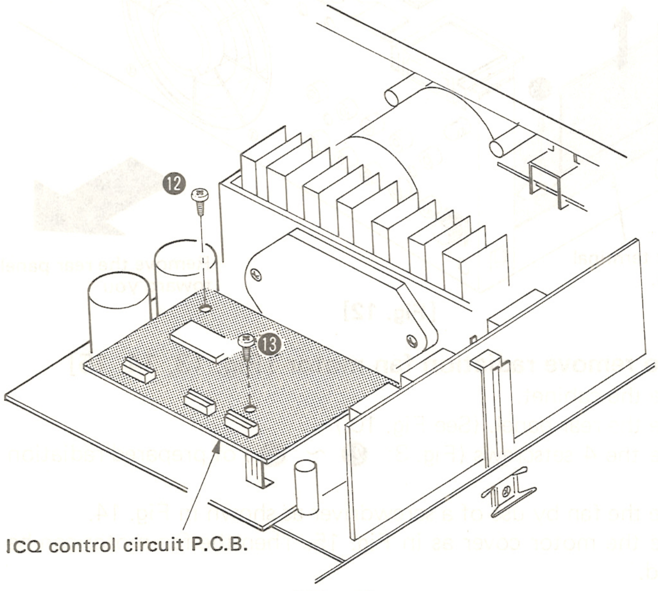
[Fig. 3]

● How to remove the ornamental board and grille [Fig. 5 ~ 7]

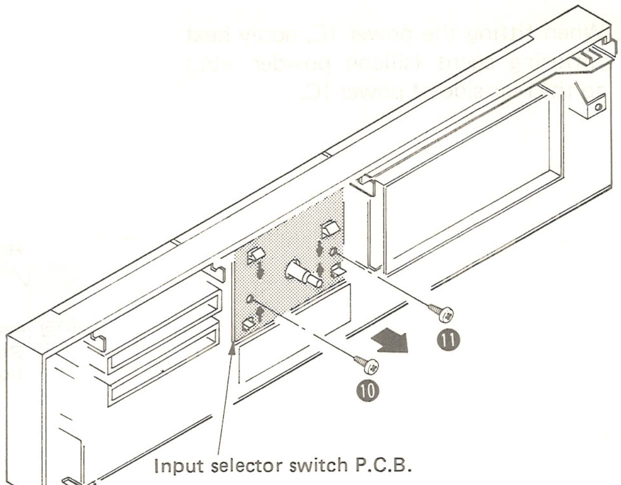
1. Remove the front panel. (Refer to "How to remove the front panel.")
2. Release the 2 claws which fasten the input selector button, and remove it from the front panel as in Fig. 5.
3. Release the 2 claws (front panel top) which fasten the display board, and remove it from the front panel.
   Note: When fitting the display board, fit it in the projection Ⓐ and then push the board in place.
4. The ornamental board and grille are welded at 17 portions shown by black spots in Fig. 6. So, cut them off by screwdriver or nippers. Then the transparent board, grille, and main volume knob can be removed as in Fig. 7.
5. When fitting the parts, set the ornamental board, grille, transparent board, and main volume knob in their positions, and then weld them at the portions shown by white circles in Fig. 6.


● Initially welded
○ Welded for the second
Back of front panel

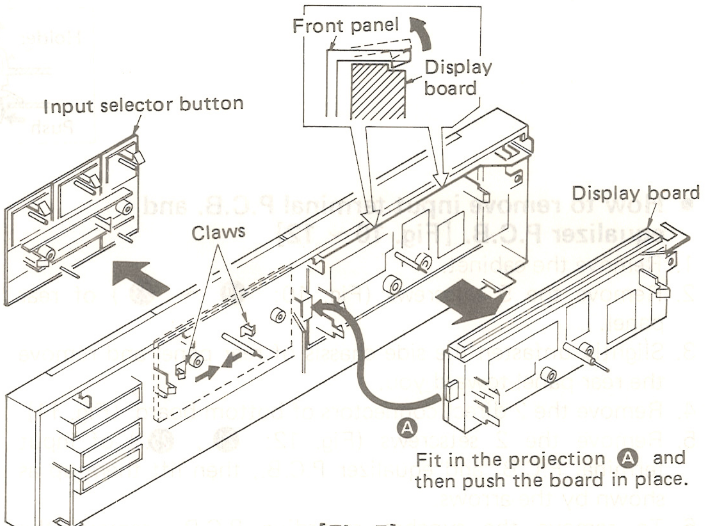
[Fig. 6]


⑫
⑬
ICQ control circuit P.C.B.

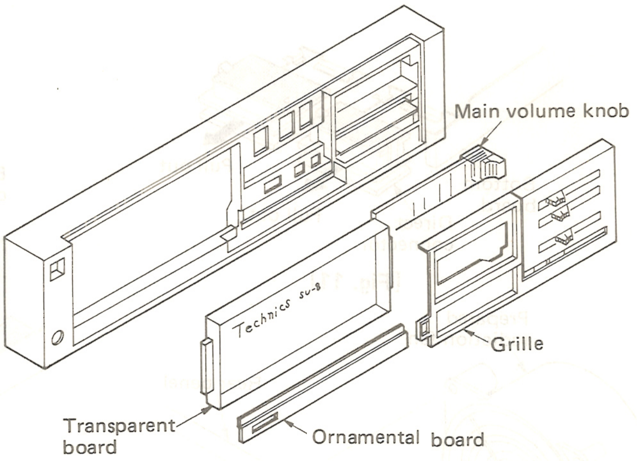
[Fig. 8]


⑪
⑩
Input selector switch P.C.B.

[Fig. 4]


Front panel
Display board
Input selector button
Display board
Claws
Ⓐ
Fit in the projection Ⓐ and then push the board in place.

[Fig. 5]

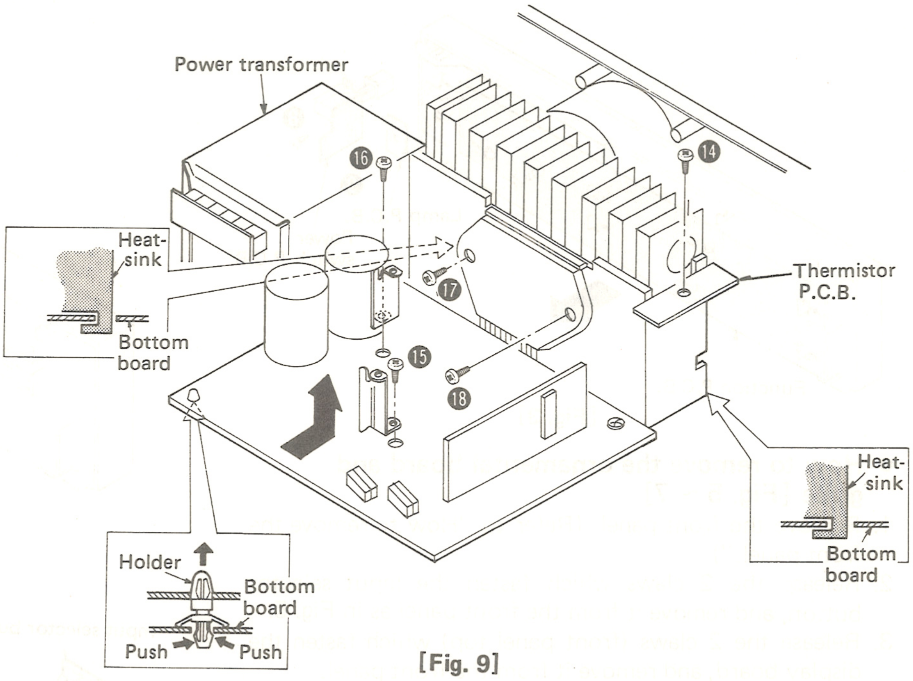

Main volume knob
Technics SU-8
Grille
Transparent board
Ornamental board

[Fig. 7]

● How to remove power IC [Fig. 8, 9]

1. Remove the cabinet.
2. Remove the 2 setscrews (Fig. 8: ⑫, ⑬) of ICQ control P.C.B.
3. Remove the setscrew (Fig. 9: ⑭) of thermistor P.C.B.
4. Remove the 2 setscrews (Fig. 9: ⑮, ⑯) of power amplifier P.C.B. and the holder fastened to the bottom of P.C.B., then slightly push the holder in the direction of the arrow and release the Heat-sink's claw to lift it up.
5. Remove solder from power IC and remove the 2 setscrews (Fig. 9: ⑰, ⑱) of power IC. Then the power IC can be removed.

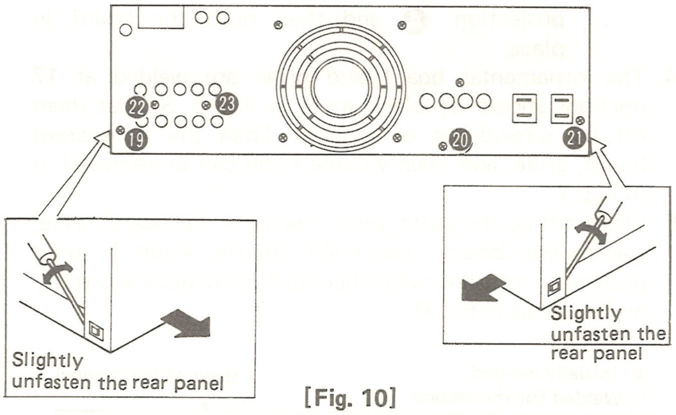
6. When fitting the power IC, apply heat diffusing agent (silicon powder, etc.) to the rear side of power IC.


Power transformer
⑯
⑭
Heat-sink
Bottom board
⑰
⑮
⑱
Thermistor P.C.B.
Heat-sink
Bottom board
Holder
Bottom board
Push
Push

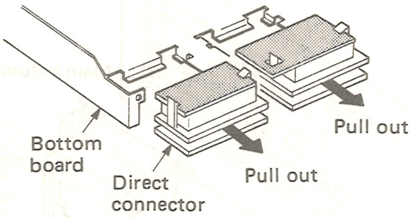
[Fig. 9]

● How to remove input terminal P.C.B. and equalizer P.C.B. [Fig. 10 ~ 12]

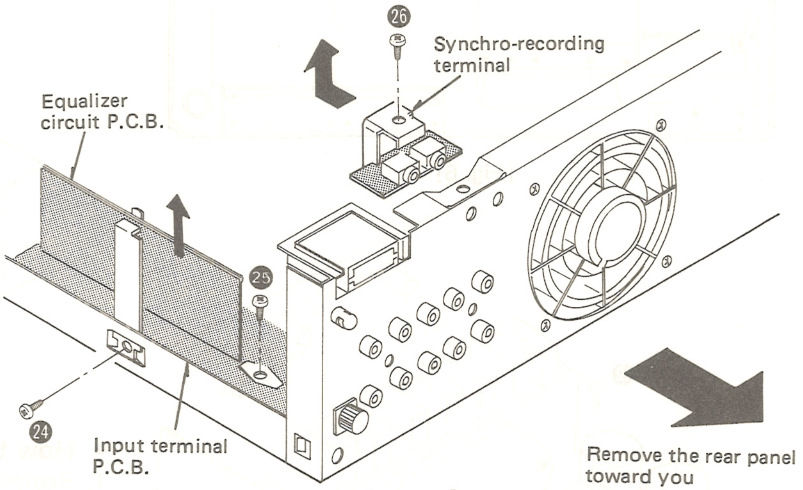
1. Remove the cabinet.
2. Remove the 5 setscrews (Fig. 10: ⑲ ~ ㉓) of rear panel.
3. Slightly unfasten the side chassis of rear panel and remove the rear panel toward you.
4. Remove the 2 direct connectors of bottom board. (Fig. 11)
5. Remove the 2 setscrews (Fig. 12: ㉔, ㉕) of input terminal P.C.B. and equalizer P.C.B., then lift them up as shown by the arrows.
6. To remove the synchro recording P.C.B., remove the setscrew (Fig. 12: ㉖).


㉒
㉓
⑲
⑳
㉑
Slightly unfasten the rear panel
Slightly unfasten the rear panel

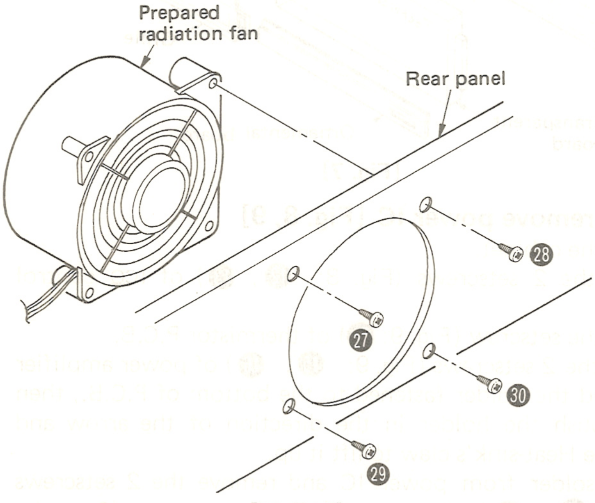
[Fig. 10]


Bottom board
Direct connector
Pull out
Pull out

[Fig. 11]


㉖
Synchro-recording terminal
Equalizer circuit P.C.B.
㉕
㉔
Input terminal P.C.B.
Remove the rear panel toward you

[Fig. 12]

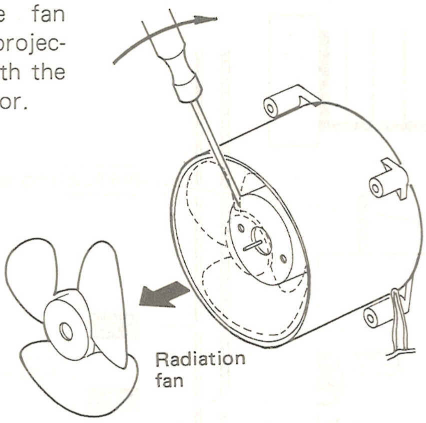

Prepared radiation fan
Rear panel
㉘
㉗
㉚
㉙

[Fig. 13]

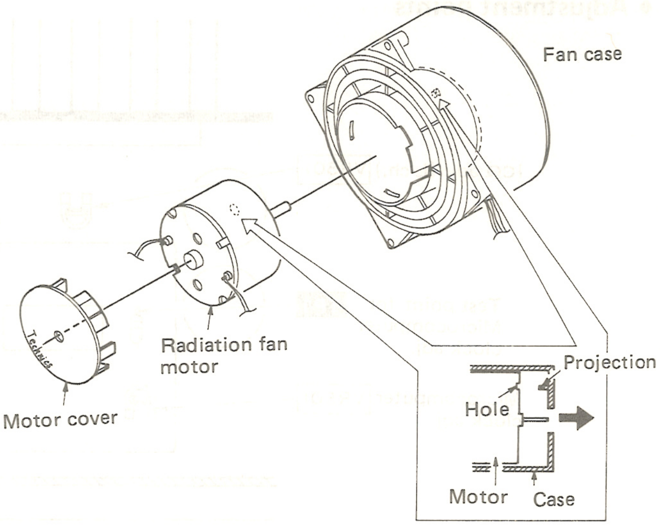
● How to remove radiation fan motor [Fig. 13, 14, 15]

1. Remove the cabinet.
2. Remove the rear panel. (See Fig. 10.)
3. Remove the 4 setscrews (Fig. 3: ㉗ ~ ㉚) of prepared radiation fan.
4. Remove the fan by use of a screwdriver as shown in Fig. 14.
5. Remove the motor cover as in Fig. 15. Then the fan motor can be removed.

6. When fitting the fan motor, match the projection of fan case with the hole in the fan motor.


Radiation fan

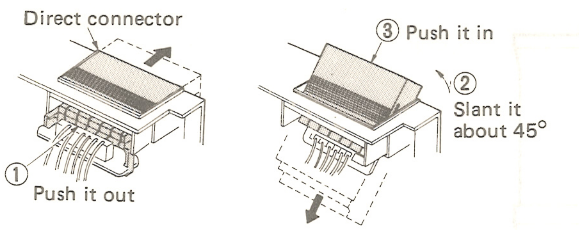
[Fig. 14]


Fan case
Radiation fan motor
Motor cover
Projection
Hole
Motor
Case

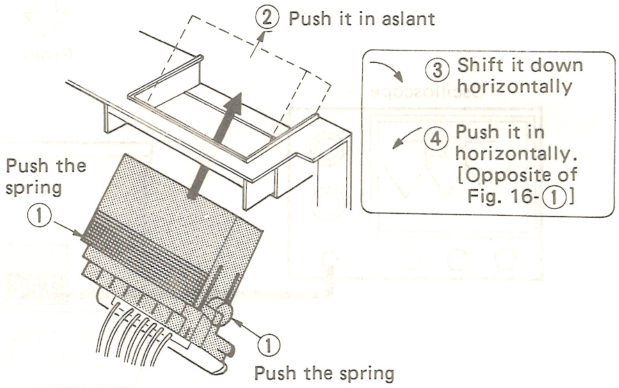
[Fig. 15]

- **How to remove direct connector [Fig. 16, 17]**

1. Remove the cabinet.
2. Remove the direct connector as shown in Fig. 16.
3. When fitting the connector, follow the procedure shown in Fig. 17.


Direct connector
① Push it out
③ Push it in
② Slant it about 45°

[Fig. 16]


② Push it in aslant
③ Shift it down horizontally
④ Push it in horizontally. [Opposite of Fig. 16-①]
Push the spring
①
① Push the spring

[Fig. 17]

MEASUREMENTS AND ADJUSTMENTS

1. Clock Adjustment (after replacing the microcomputer)

(1) Connect the oscilloscope to TP1 (Refer to Fig. 19)

(2) Adjust VR601 so that period of waveform is 2.5μsec.

2. Idling (ICQ) Adjustment (after reparing the main amp.)

(1) After the repair, set the sound volume to minimum before turning on the power switch, and connect nothing to the speaker terminals.

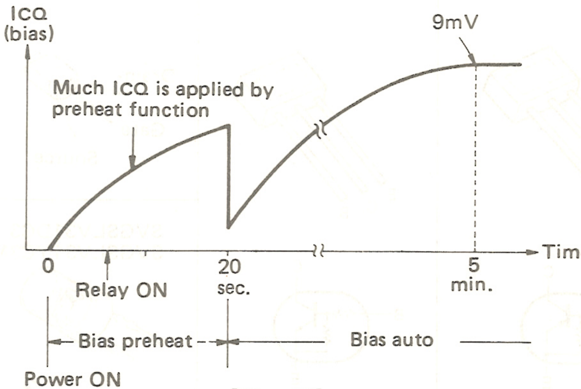
(2) Completely turn ICQ control (VR301, 302) clockwise.

(3) Increase the voltage applied to the amplifier gradually from 0V by means of a power supply voltage controller, and make sure of the value in the Figure on page 6 before starting the adjustment.

(4) Connect the DC electronic voltmeter to TP3 (+) and TP4 (−) [left channel] or TP5 (+) and TP6 (−) [right channel].

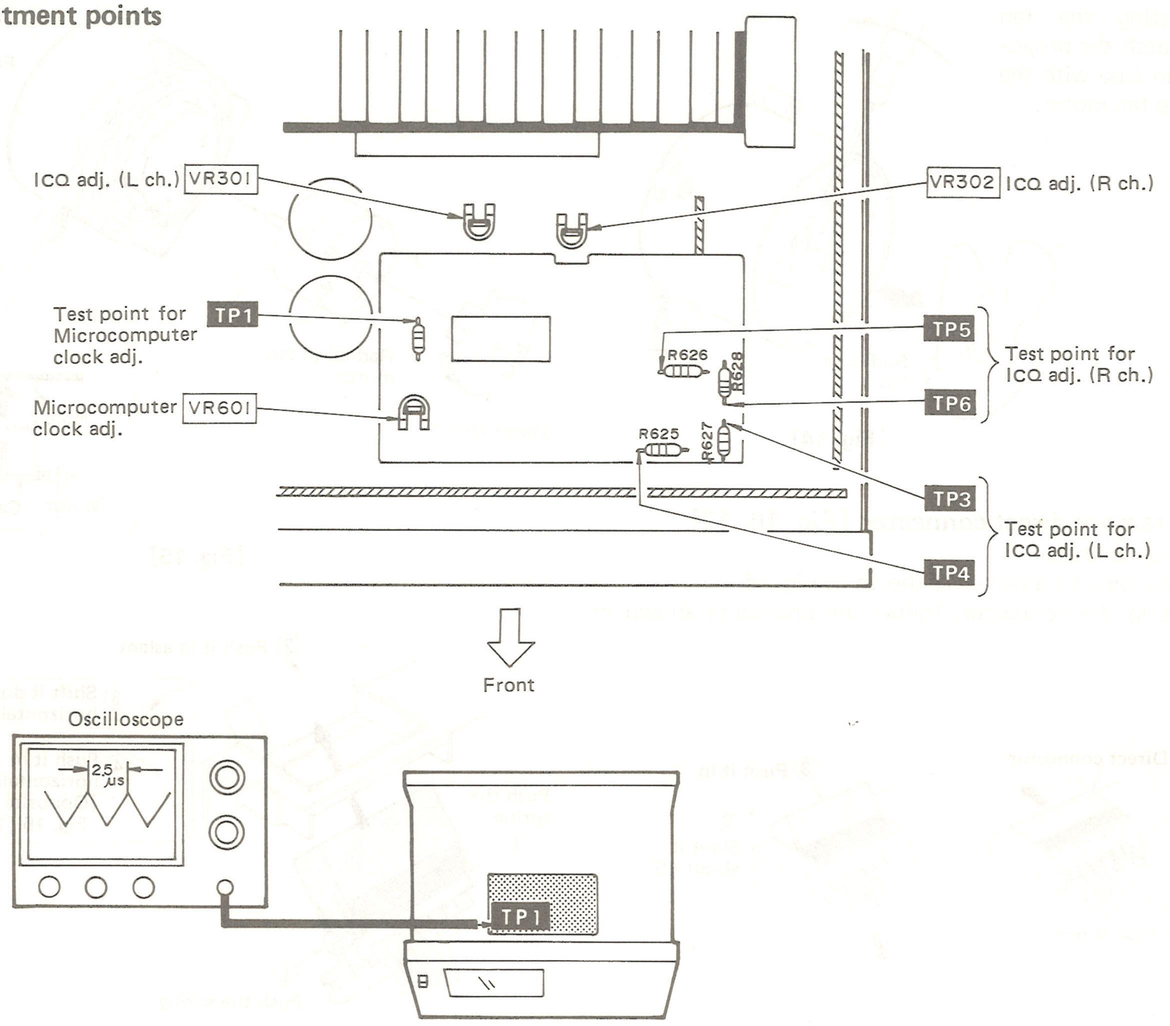
(5) When 5 minutes have lapsed after computer drive monitor "auto" lights up, adjust VR301 [left channel] or VR302 [right channel] to 9mV.

* In this set, ICQ is controlled by microcomputer, and ICQ a little more than the normal level is applied by "PREHEAT" for about 20 sec. after power ON. After that, the output level and transistor temperature are detected by "AUTO", thereby automatically controlling ICQ.



[Fig. 18]

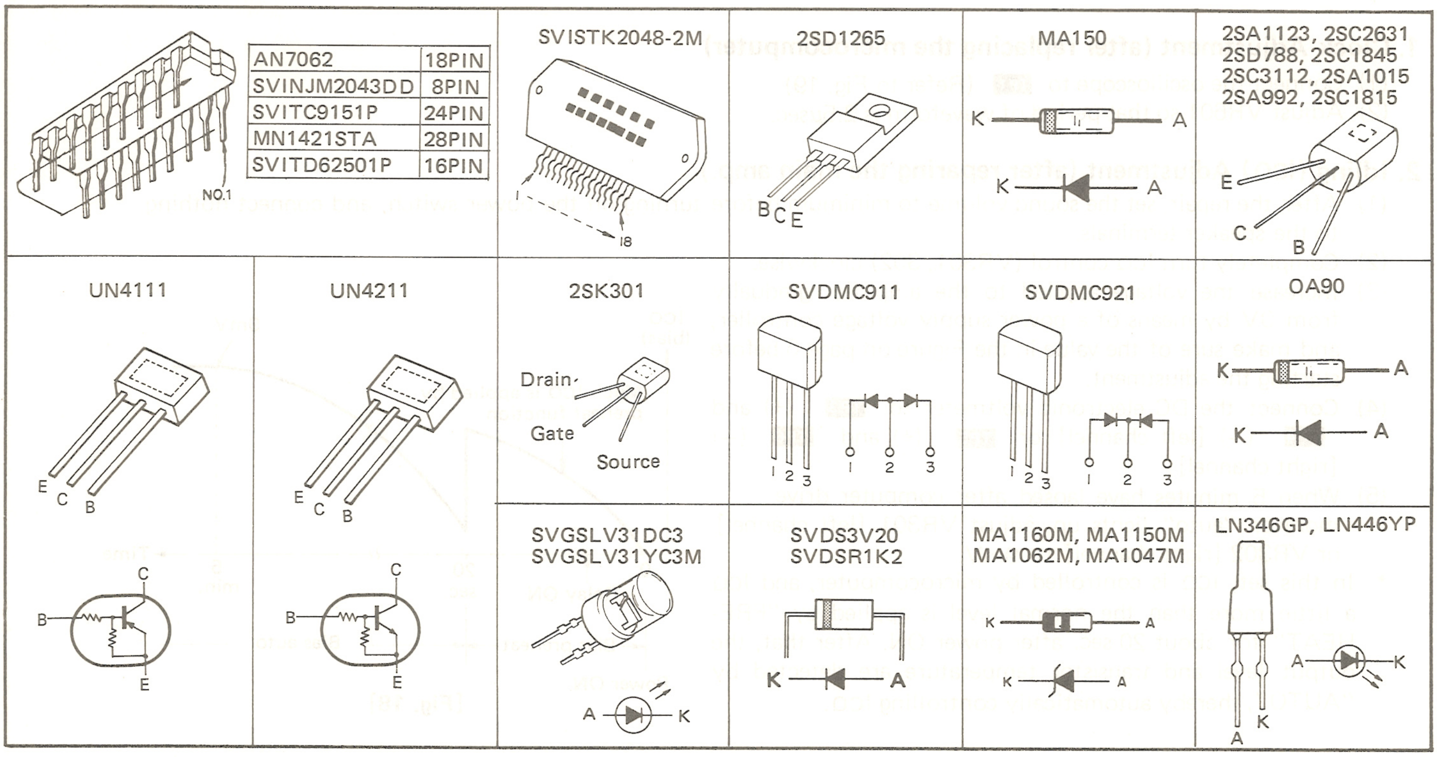
- **Adjustment points**


ICQ adj. (L ch.) VR301
VR302 ICQ adj. (R ch.)
Test point for Microcomputer clock adj. TP1
Microcomputer clock adj. VR601
R626
R628
R625
R627
TP5
TP6
Test point for ICQ adj. (R ch.)
TP3
TP4
Test point for ICQ adj. (L ch.)
Front
Oscilloscope
25 µs
TP1
B

[Fig. 19]

Microcomputer clock adj.

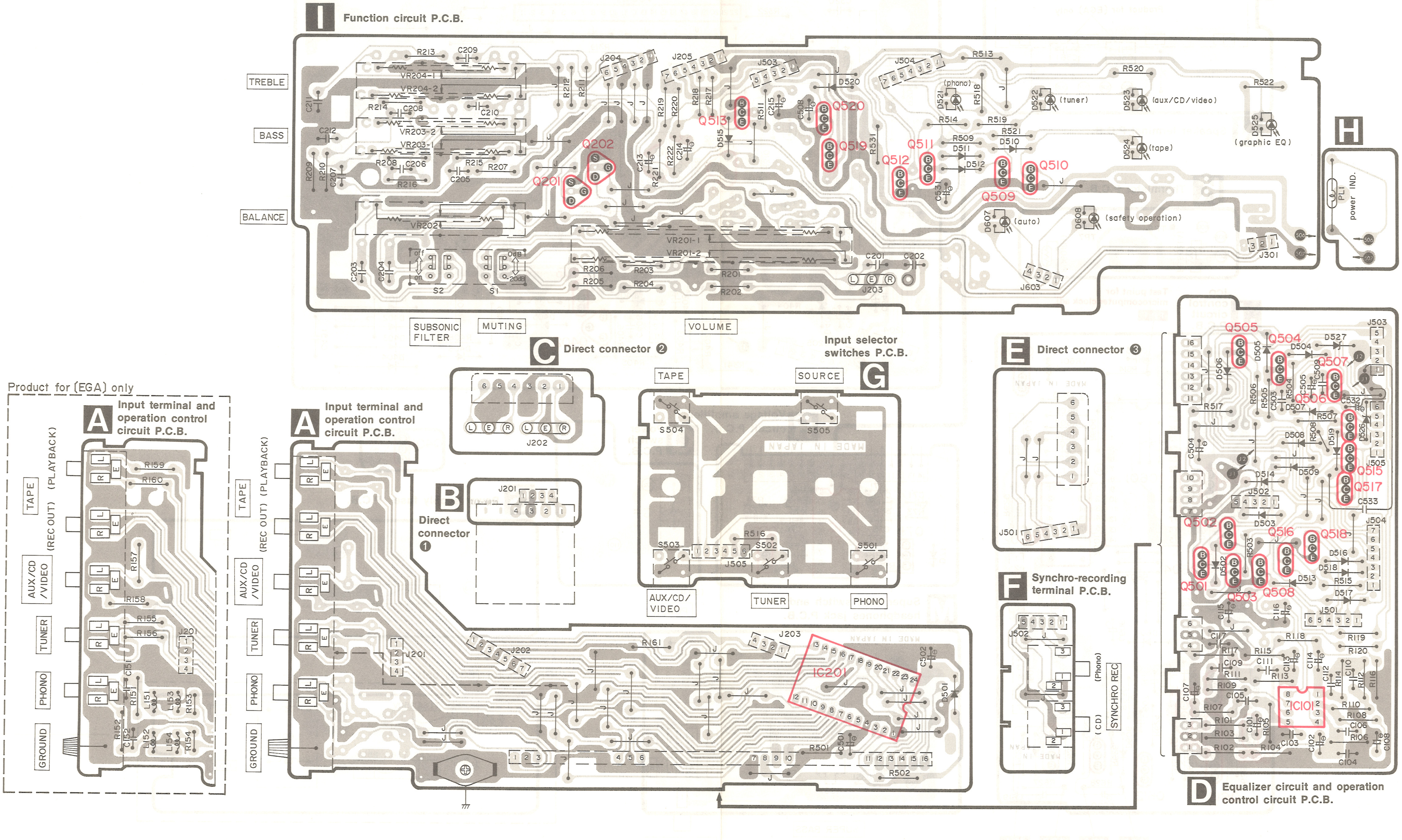
- **Terminal guide of transistors, diodes and IC's**

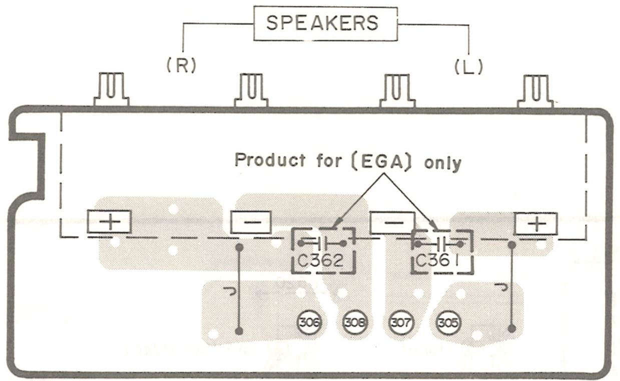

NO.1
1
18
SVISTK2048-2M
2SD1265
B C E
MA150
K
A
2SA1123, 2SC2631
2SD788, 2SC1845
2SC3112, 2SA1015
2SA992, 2SC1815
E
C
B
UN4111
E C B
B
C
E
UN4211
E C B
B
C
E
2SK301
Drain
Gate
Source
SVDMC911
1 2 3
SVDMC921
1 2 3
OA90
K
A
SVGSLV31DC3
SVGSLV31YC3M
A
K
SVDS3V20
SVDSR1K2
K
A
MA1160M, MA1150M
MA1062M, MA1047M
K
A
LN346GP, LN446YP
A
K

AN7062	18PIN
SVINJM2043DD	8PIN
SVITC9151P	24PIN
MN1421STA	28PIN
SVITD62501P	16PIN

PRINTED CIRCUIT BOARDS

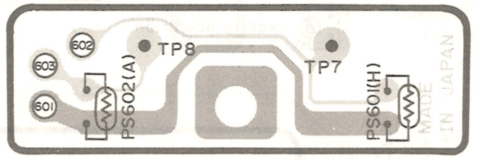
▨ Ground (Earth) lines


I Function circuit P.C.B.
TREBLE
BASS
BALANCE
SUBSONIC FILTER
MUTING
VOLUME
VR204-1
VR204-2
VR203-2
VR203-1
VR202
VR201-1
VR201-2
S1
S2
J203
J204
J205
J503
J504
J301
J603
Q201
Q202
Q509
Q510
Q511
Q512
Q513
Q519
Q520
(phono)
(tuner)
(aux/CD/video)
(tape)
(graphic EQ)
(auto)
(safety operation)
H
PL1
power IND.
C Direct connector ②
J202
Input selector switches P.C.B.
G
TAPE
SOURCE
S504
S505
S503
S502
S501
J505
R516
AUX/CD/VIDEO
TUNER
PHONO
MADE IN JAPAN
B
Direct connector ①
J201
E Direct connector ③
J501
F Synchro-recording terminal P.C.B.
J502
(Phono)
(CD)
SYNCHRO REC
Product for (EGA) only
A Input terminal and operation control circuit P.C.B.
A Input terminal and operation control circuit P.C.B.
TAPE
AUX/CD /VIDEO
TUNER
PHONO
GROUND
(REC OUT)
(PLAYBACK)
IC201
R501
R502
D501
D Equalizer circuit and operation control circuit P.C.B.
Q501
Q502
Q503
Q504
Q505
Q506
Q507
Q508
Q515
Q516
Q517
Q518
IC101
J503
J504
J505
J501
J502


SPEAKERS
(R)
(L)
Product for (EGA) only
+
−
−
+
C362
C361
J
J
305
308
307
306

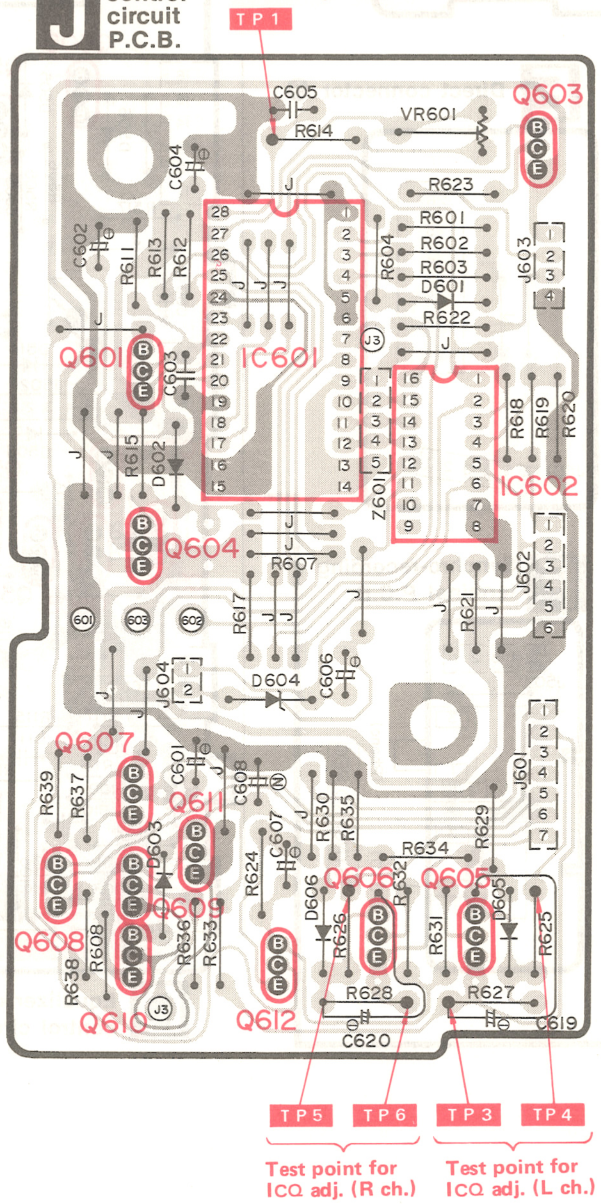
N Speaker terminal P.C.B.

K Thermistor P.C.B.

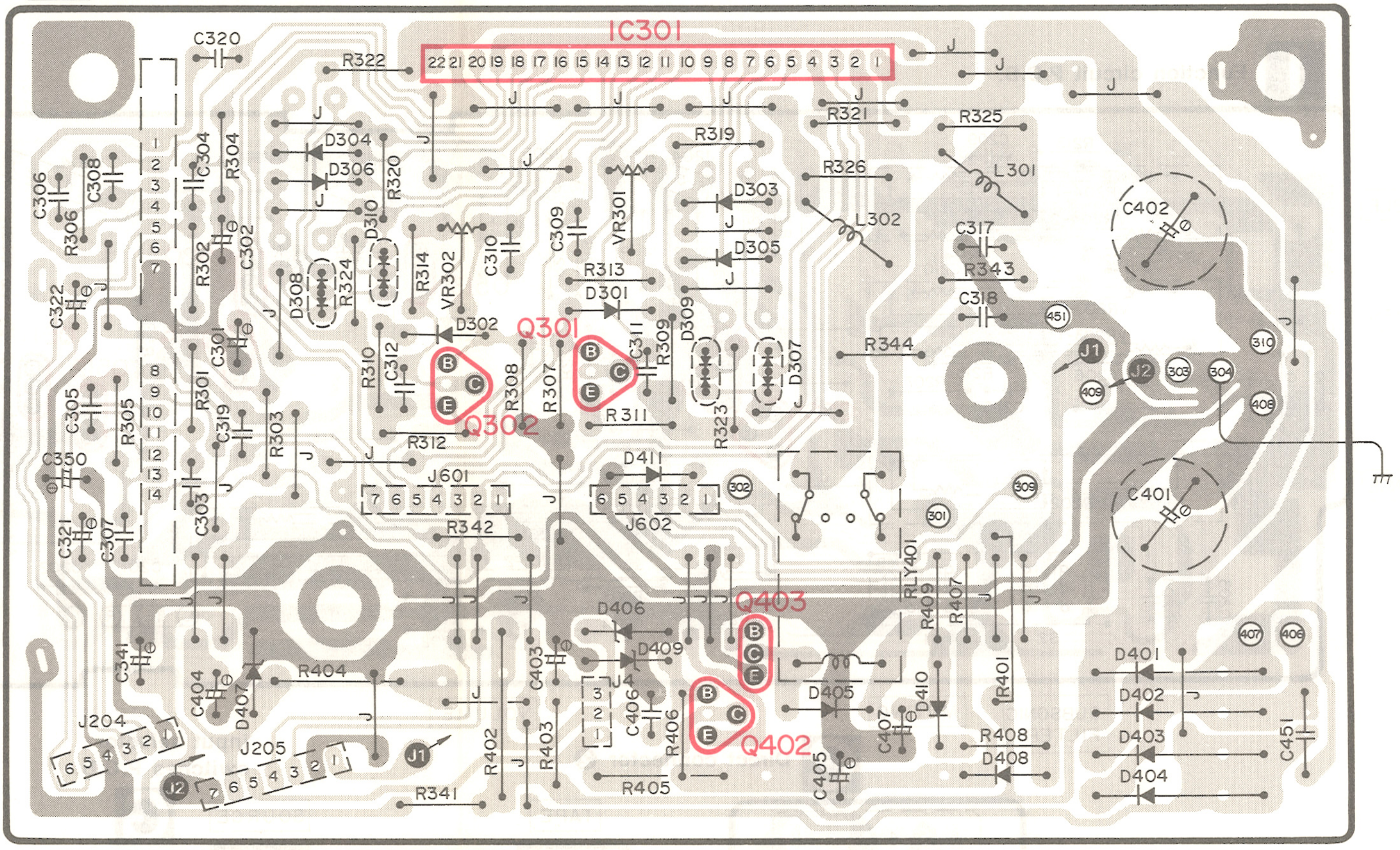

603
602
601
TP8
TP7
PS602(A)
PS601(H)
MADE IN JAPAN

J ICQ control circuit P.C.B.

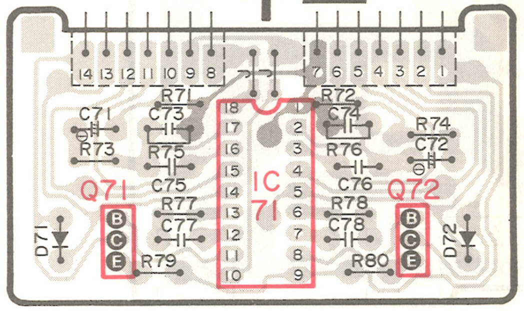
Test point for microcomputer clock adj.


TP1
C605
VR601
R614
Q603
C604
R623
R601
R602
R603
D601
R622
J603
C602
R611
R613
R612
IC601
R604
J3
Q601
C603
IC602
R618
R619
R620
R615
D602
Q604
R607
J602
J601
R617
R621
601
603
602
J604
D604
C606
Q607
R639
R637
C601
C608
Q611
R630
R635
R629
C607
D603
R634
Q608
R624
Q606
Q605
Q609
D606
R632
D605
R636
R633
R626
R631
R625
R638
R608
Q612
R628
R627
Q610
J3
C620
C619
TP5
TP6
TP3
TP4
Test point for ICQ adj. (R ch.)
Test point for ICQ adj. (L ch.)

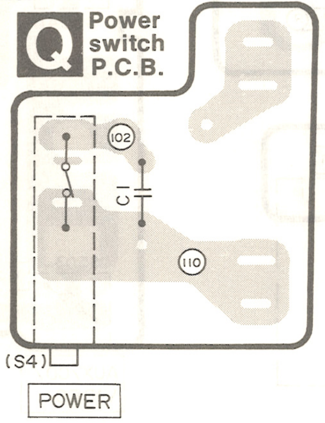
L Main amplifier and power supply circuit P.C.B.

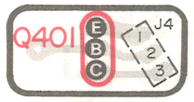

IC301
C320
R322
22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
R321
R325
R319
D304
D306
R304
R320
D303
D305
R326
L301
L302
C306
C308
C304
R306
C302
R302
D310
VR301
VR302
C309
C310
R314
R313
D301
C317
R343
C402
C318
C322
D308
R324
D302
Q301
C311
R309
D309
D307
R344
C301
R310
C312
R308
R307
R311
Q302
C305
R305
R301
C319
R303
R312
R323
D411
C350
J601
J602
R342
C321
C307
C303
C401
RLY401
R409
R407
Q403
D406
D409
C341
C404
D407
R404
C403
C406
R406
Q402
D405
D410
C407
R401
D401
D402
D403
D404
R408
D408
C451
J204
J205
J1
J2
R341
R402
R403
R405
C405

R Voltage amplifier circuit P.C.B.

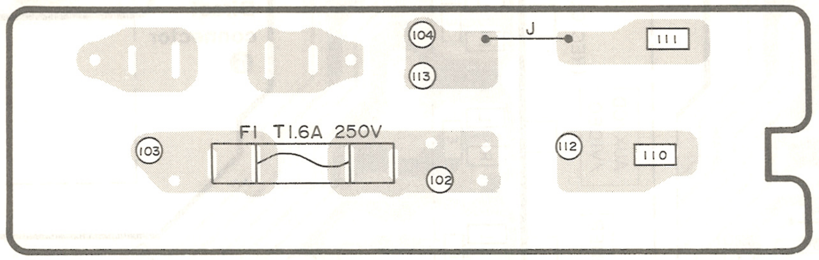

14 13 12 11 10 9 8
7 6 5 4 3 2 1
C71
C73
R71
R72
C74
R74
C72
R73
R75
R76
Q71
C75
IC71
C76
Q72
R77
R78
C77
C78
D71
R79
R80
D72

Q Power switch P.C.B.

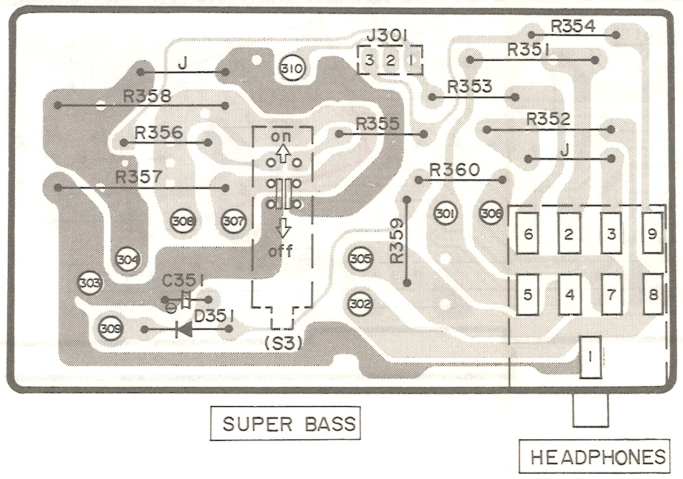

102
C1
110
(S4)
POWER


Q401
E
B
C
J4
1
2
3

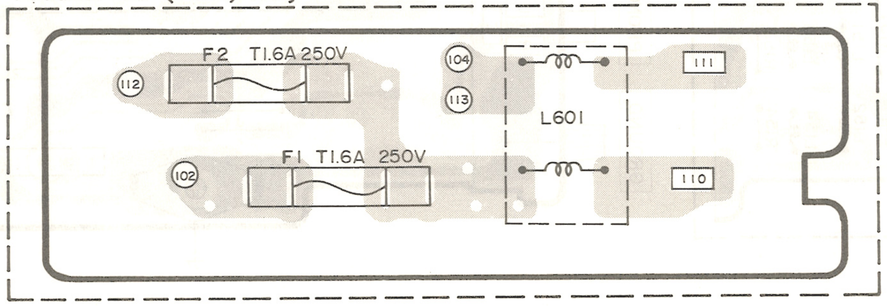
S Power supply fuse P.C.B.


104
113
J
111
103
F1 T1.6A 250V
112
110
102

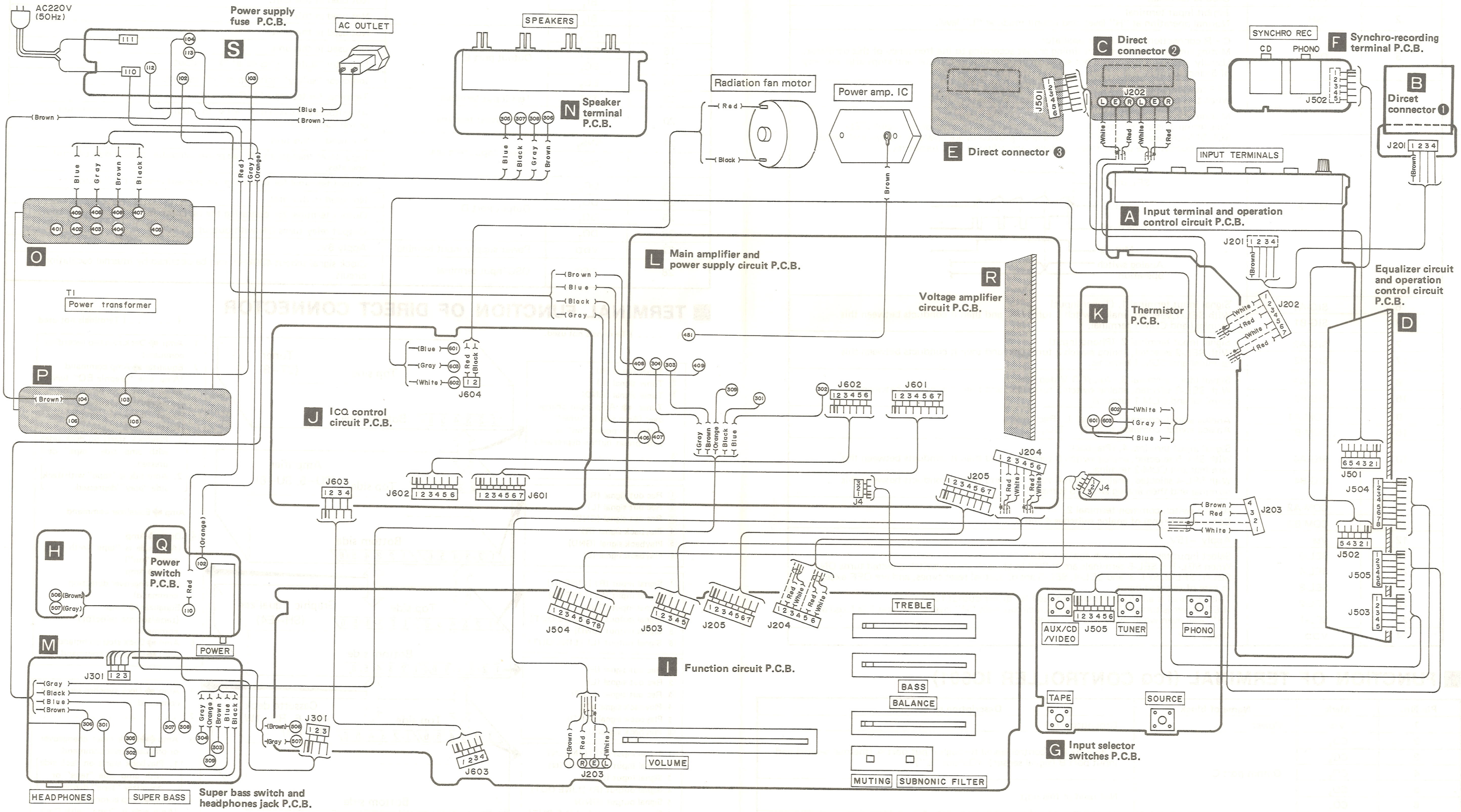
M Super bass switch and headphones jack P.C.B.


J301
R354
R351
J
310
R353
R358
R355
R352
R356
on
off
R357
R360
308
307
301
306
R359
304
305
303
C351
302
309
D351
(S3)
SUPER BASS
HEADPHONES

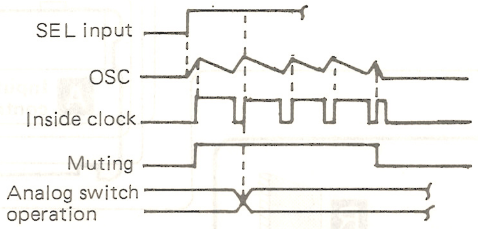
Product for (EGA) only


F2 T1.6A 250V
112
104
113
111
L601
102
F1 T1.6A 250V
110

CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM (Top view)


AC220V (50Hz)
Power supply fuse P.C.B.
S
AC OUTLET
SPEAKERS
Speaker terminal P.C.B.
N
Radiation fan motor
Power amp. IC
Direct connector ❸
E
Direct connector ❷
C
J202
J501
SYNCHRO REC
CD
PHONO
Synchro-recording terminal P.C.B.
F
J502
Diret connector ❶
B
J201
INPUT TERMINALS
Input terminal and operation control circuit P.C.B.
A
O
T1
Power transformer
P
Main amplifier and power supply circuit P.C.B.
L
Voltage amplifier circuit P.C.B.
R
Thermistor P.C.B.
K
Equalizer circuit and operation control circuit P.C.B.
D
ICQ control circuit P.C.B.
J
J604
J602
J601
J603
J4
J204
J205
J203
J504
J503
J505
H
Power switch P.C.B.
Q
POWER
M
J301
HEADPHONES
SUPER BASS
Super bass switch and headphones jack P.C.B.
Function circuit P.C.B.
I
TREBLE
BASS
BALANCE
VOLUME
MUTING
SUBNONIC FILTER
AUX/CD /VIDEO
TUNER
PHONO
TAPE
SOURCE
Input selector switches P.C.B.
G
Blue
Gray
Brown
Black
Red
Orange
White

FUNCTION OF TERMINAL (FUNCTION SELECTOR IC201)

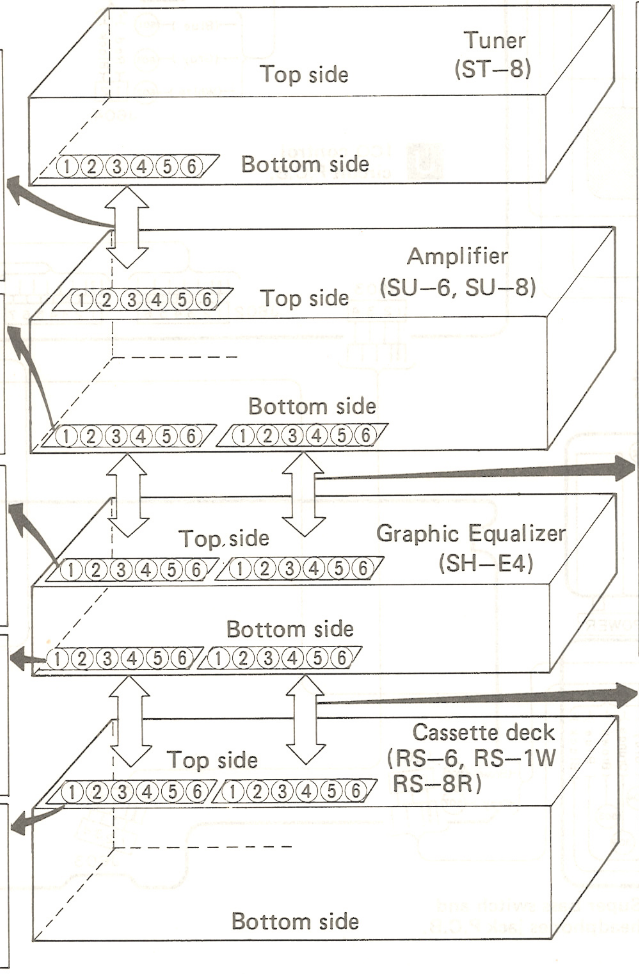
Pin No.	Mark	Description of terminal
1	GND	Ground terminal.
2	INH	Inhibit input terminal Normal operation at "H" level, and inhibit mode at "L" level.
3	OSC	C • R connection terminal for oscillator Muting time and analog switch timing are set according to the frequency of this oscillator. Usually, oscillator is stopped but starts oscillating with SEL input, and stops after delivery of 5 clock output.
4	ALL-OFF	OFF assigning input terminal for all analog switches. When this terminal is at "H" level, all analog switches turn OFF.
5	MUTE	Muting signal output terminal. This terminal is at "H" level for a specific period of time when select input (SEL-1 ~ SEL-5) terminals receive "H" level, and analog switches are operated within that period. Muting output time can be freely designed according to OSC frequency.  SEL input OSC Inside clock Muting Analog switch operation
6	SIG-A1	Signal input terminal 1. (Tuner input) With SEL-1 selected, analog switch 1 turns ON, and then it conducts between this terminal and COM-1 terminal.
18	SIG-B1	
7	SIG-A2	Signal input terminal 2. (Phono input) With SEL-2 selected, analog switch 2 turns ON, and then it conducts between this terminal and COM-1 terminal.
17	SIG-B2	
8	SIG-A3	Signal input terminal 3. (Aux/CD/Video input) With SEL-3 selected, analog switch 3 turns ON, and then it conducts between this terminal and COM-1 terminal.
16	SIG-B3	
9	COM-A1	Analog switch common terminal 1. (Rec out) Analog switch common to $SIG_1 \sim SIG_3$.
15	COM-B1	
10	SIG-A4	Signal input terminal 4. (Playback) With SEL-5 selected, analog switch 5 turns ON, and then it conducts between this terminal and COM-2 terminal. With SEL-4 selected, analog switch 4 turns ON, and then it conducts between this terminal and then analog switch 5 turns off.
14	SIG-B4	
11	COM-A2	Analog switch common terminal 2. Common terminal of analog switches 4 and 5.
13	COM-B2	
12	Vss	Apply −15V.
19	SEL-5	Select input terminal of each analog switch. When SEL-1 ~ SEL-5 terminals are at "H" level, each analog switch selected turns ON. SEL-1, SEL-2, SEL-3, and SEL-4, SEL-5 are of mutual reset types, and are OFF except in case of selected input. This terminal is an I/O terminal, also used for driver output for display. (LED driver is turned ON by inside latch circuit with "H" level input, and it is fixed at "H" level even when shifted to "L" level.)
20	SEL-4	
21	SEL-3	
22	SEL-2	
23	SEL-1	
24	VDD	Apply 15V.

FUNCTION OF TERMINAL (ICQ CONTROLLER IC601)

Pin No.	Mark	Name of block	Description of terminal
1	Vss	Power	Grounded (0V)
2	CO_9	Output port C	It delivers ICQ control signal through input port A (thermal sensor) and input port B (signal sensor). [Output "L"]
3	CO_8		
4	CO_7		Not used in this unit.
5	CO_6		
6	CO_5		
7	AI_3	Input port A	"H" input with DC detector circuit of power amplifier operated.
8	AI_2		When 130°C (266°F) sensor of power amplifier operates, the input level becomes "H".
9	AI_1		Not used in this unit.
10	AI_0		When 60°C (122°F) sensor of power amplifier operates, the input level becomes "L".
11	BI_3	Input port B	Input level changes to "L" as effective output signal sensor of power amplifier operates.
12	BI_2		Input level changes to "L" as effective output signal sensor of power amplifier operates.
13	BI_1		Not used in this unit.
14	BI_0		Not used in this unit.
15	EO_0	Output port E	Not used in this unit.
16	EO_1		Not used in this unit.
17	EO_2		Indicator "auto" lights up at "L" output.
18	EO_3		Indicator "safety" lights up at "H" output.
19	TST	Test input terminal	Terminal for testing LSI (Grounded).
20	RST	Reset input terminal	All outputs are cleared or rest with input at "L". (It is connected to power supply circuit)
21	SNS_0	Sensor input terminal	Not used in this unit.
22	SNS_1		Input level changes to "H" as power amplifier output short-circuit operates.
23	DO_0	Output port D	Output terminal for operating the preheat circuit. ("L" output)
24	DO_1		Not used in this unit.
25	DO_2		Output terminal for operating the radiation fan motor. ("H" output)
26	DO_3		Output relay turns ON with output at "H".
27	VDD	Power supply input terminal	Apply 5V.
28	OSC	OSC input terminal	Clock signal (about 400kHz) can be obtained by internal oscillation circuit.

TERMINAL FUNCTION OF DIRECT CONNECTOR

(. . . . . .) Terminals not used.



① Tuner signal (R)
② Tuner signal (L)
③ Tuner signal (GND)
④ Tuner ➡ Amp input changeover (Amp side is "tuner" with tuner power "on" or with preset button depressed.)
⑤ . . . .
⑥ . . . .

① Rec out signal (R)
② Rec out signal (L)
③ Rec out signal (GND)
④ Playback signal (R)
⑤ Playback signal (GND)
⑥ Playback signal (L)

① Signal input (R) [LINE IN]
② Signal input (L) [LINE IN]
③ Signal input (GND)
④ Signal output (R) [LINE OUT]
⑤ Signal output (GND)
⑥ Signal output (L) [LINE OUT]

① Rec out signal (R)
② Rec out signal (L)
③ Rec out signal (GND)
④ Playback signal (R)
⑤ Playback signal (GND)
⑥ Playback signal (L)

① Signal input (R) [LINE IN]
② Signal input (L) [LINE IN]
③ Signal input (GND)
④ Signal output (R) [LINE OUT]
⑤ Signal output (GND)
⑥ Signal output (L) [LINE OUT]

(. . . . . . .) Terminals not used.

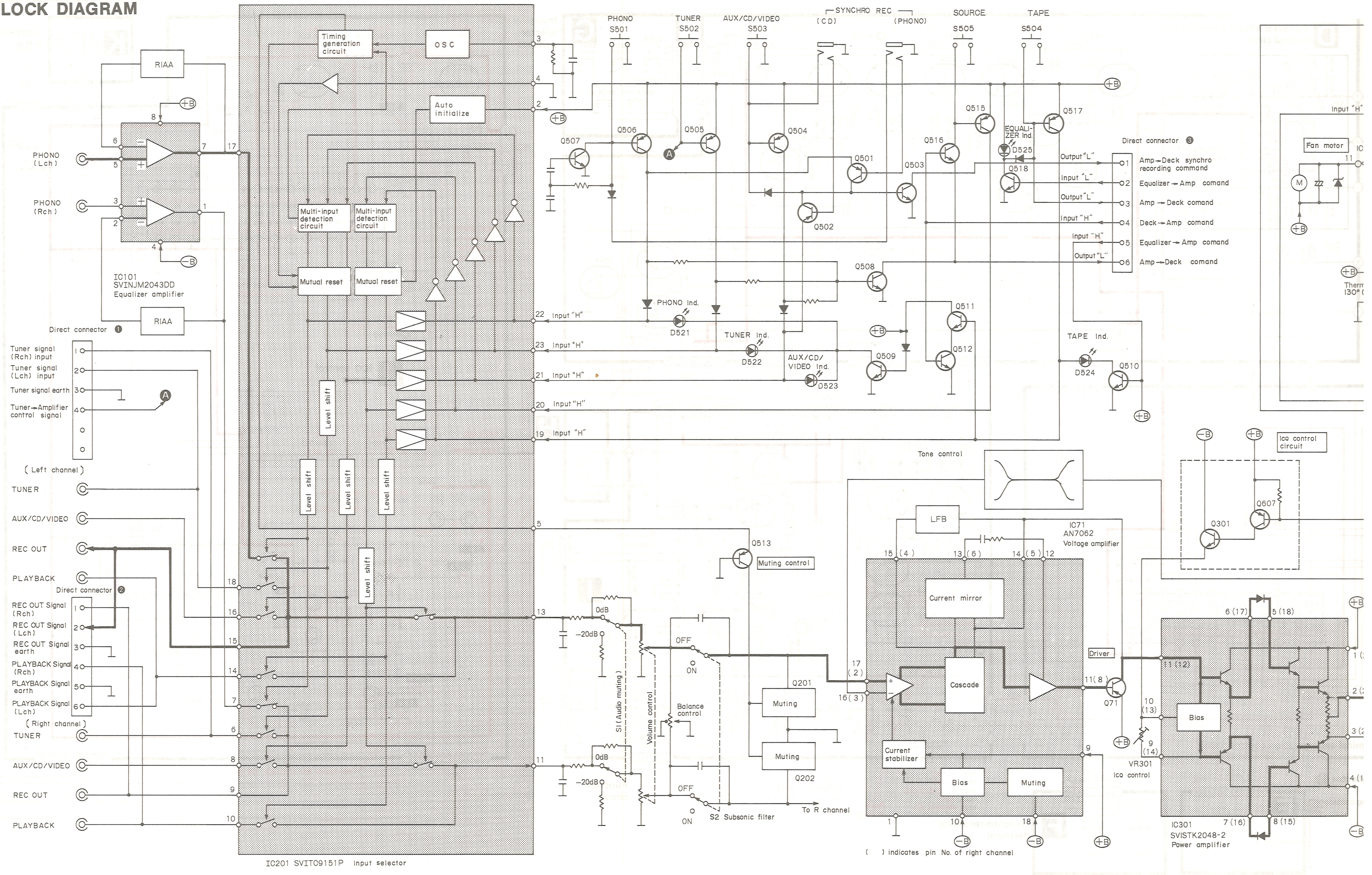
① Amp ➡ Deck synchro recording command
② Equalizer ➡ Amp command (Amp side "graphic EQ" lights up with equalizer power "on".)
③ Amp ⬌ Deck command (Input changeover or playback start)
  1. Playback starts on deck side with amp side "tape" depressed.
  2. Amp side is "tape" with deck side "play" depressed.

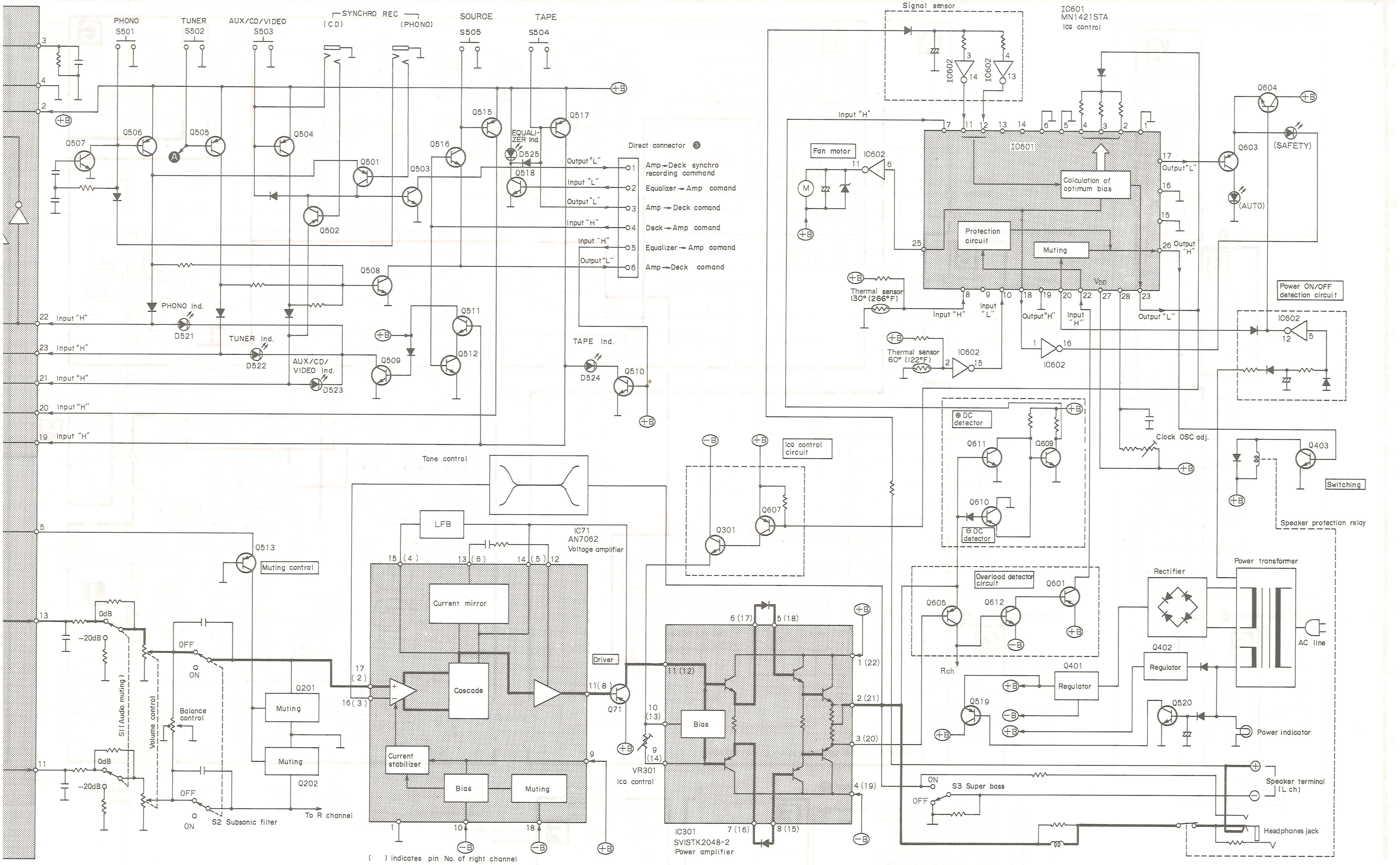
  Amp ➡ Equalizer command
④ Deck ➡ Amp (Amp side is "tape" with Deck power "on")
  Deck ➡ Amp (dbx changeover detection command)
⑤ Equalizer ➡ Amp (tape/source selector) command
⑥ Amp ➡ Deck stop command
  Amp ➡ Equalizer command

① Amp ➡ Deck synchro recording command.
② . . . .
③ Amp ⬌ Deck input changeover or playback start command.
  1. Playback starts on deck side with amp side "tape" or equalizer "tape" depressed.
④ Deck ➡ Amp command (Amp side is "tape" with Deck power "on")
  Deck ➡ Amp dbx changeover detection
⑤ . . . .
⑥ Amp ➡ Deck stop command

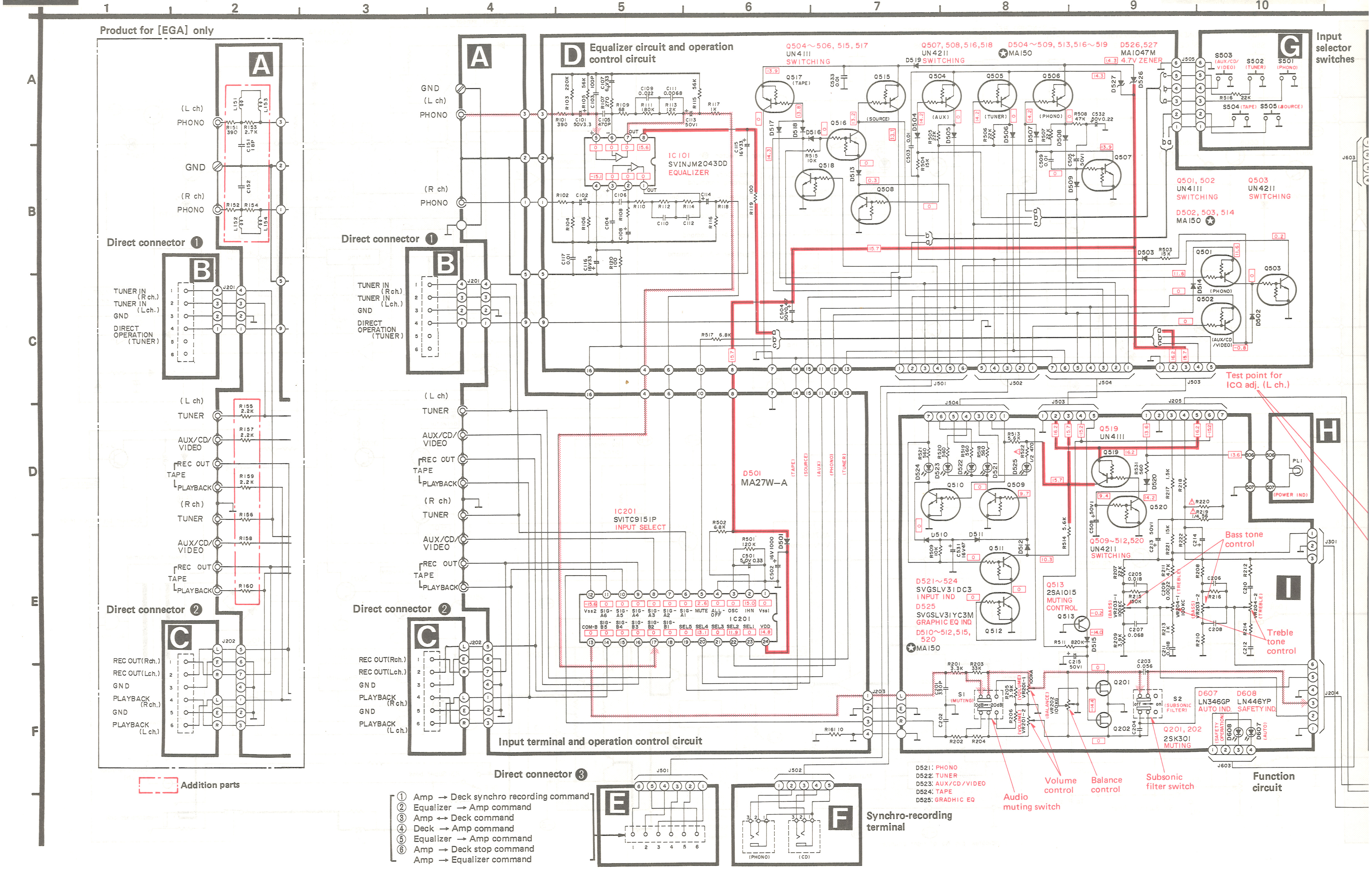
Terminal ⑥ is not used in RS–1W.

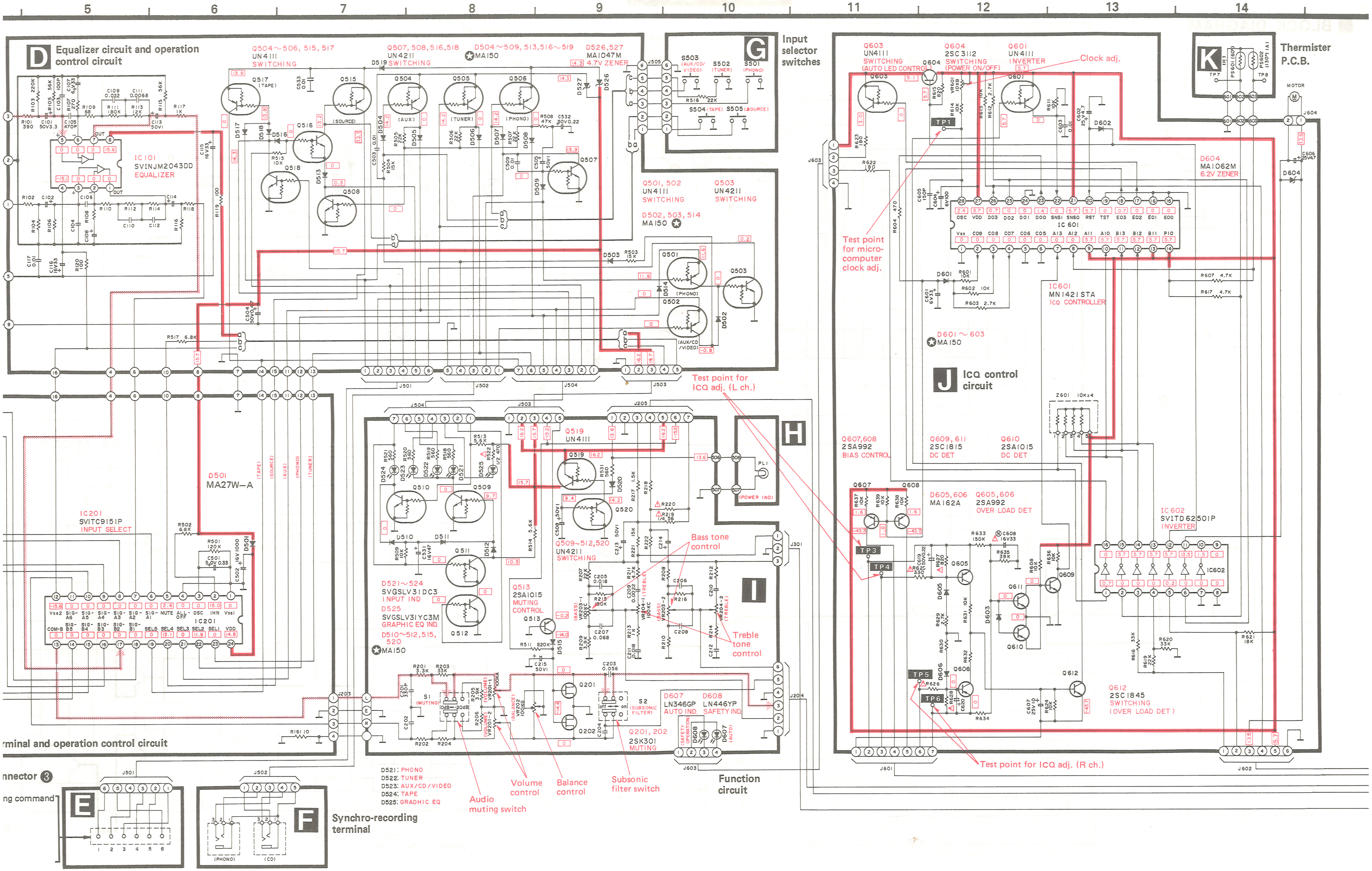
BLOCK DIAGRAM

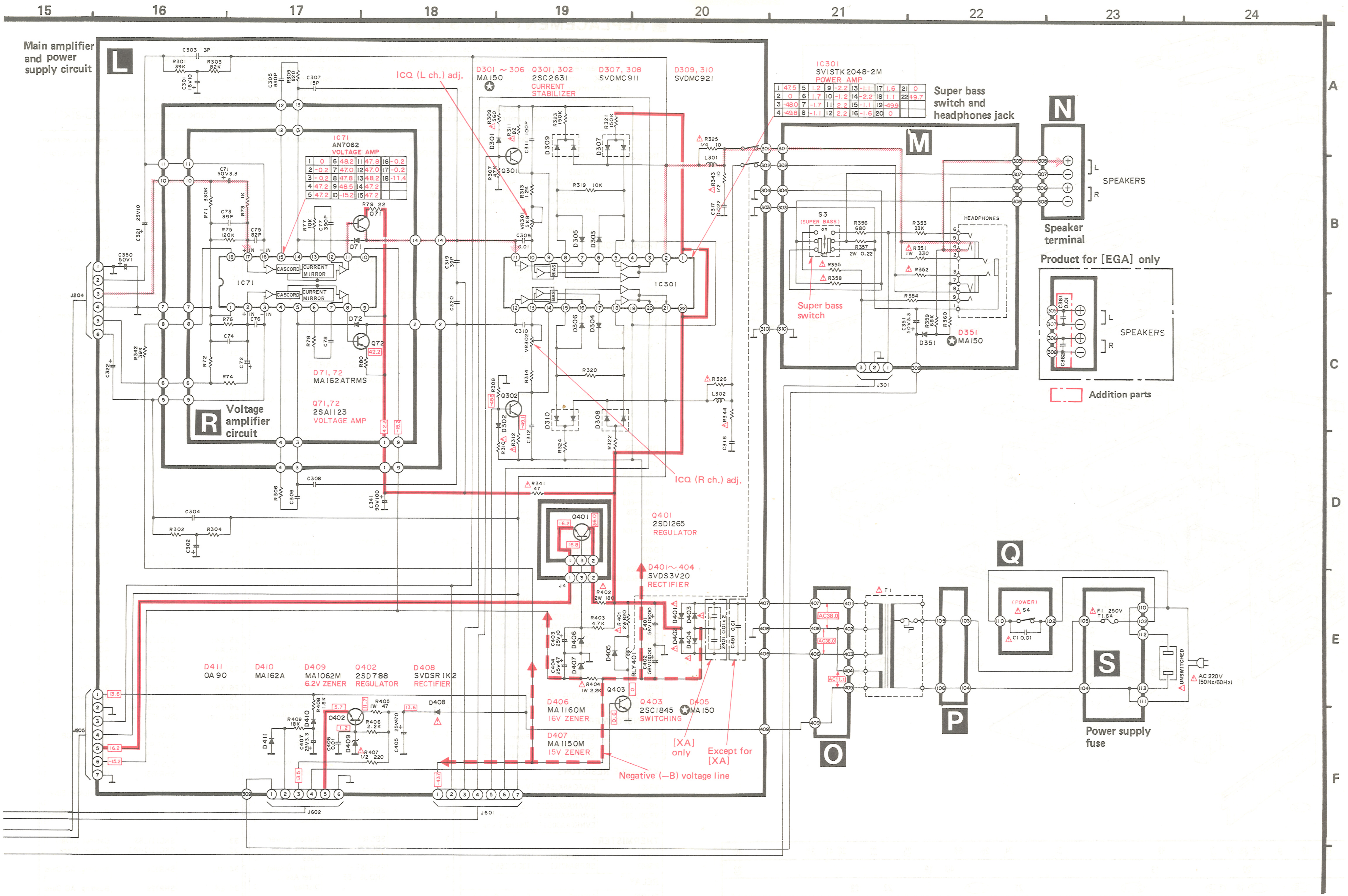

RIAA
PHONO (Lch)
PHONO (Rch)
IC101 SVINJM2043DD Equalizer amplifier
RIAA
Direct connector ❶
Tuner signal (Rch) input
Tuner signal (Lch) input
Tuner signal earth
Tuner→Amplifier control signal
(Left channel)
TUNER
AUX/CD/VIDEO
REC OUT
PLAYBACK
Direct connector ❷
REC OUT Signal (Rch)
REC OUT Signal (Lch)
REC OUT Signal earth
PLAYBACK Signal (Rch)
PLAYBACK Signal earth
PLAYBACK Signal (Lch)
(Right channel)
TUNER
AUX/CD/VIDEO
REC OUT
PLAYBACK
Timing generation circuit
OSC
Auto initialize
Multi-input detection circuit
Multi-input detection circuit
Mutual reset
Mutual reset
Level shift
Level shift
Level shift
Level shift
Level shift
IC201 SVITC9151P Input selector
PHONO S501
TUNER S502
AUX/CD/VIDEO S503
SYNCHRO REC (CD) (PHONO)
SOURCE S505
TAPE S504
Q501
Q502
Q503
Q504
Q505
Q506
Q507
Q508
Q509
Q510
Q511
Q512
Q513
Q515
Q516
Q517
Q518
EQUALIZER Ind. D525
PHONO Ind. D521
TUNER Ind. D522
AUX/CD/VIDEO Ind. D523
TAPE Ind. D524
Input "H"
Input "L"
Output "L"
Direct connector ❸
Output "L" 1 Amp→Deck synchro recording command
Input "L" 2 Equalizer→Amp comand
Output "L" 3 Amp→Deck comand
Input "H" 4 Deck→Amp comand
Input "H" 5 Equalizer→Amp comand
Output "L" 6 Amp→Deck comand
Fan motor
Input "H"
Therm 130°
Muting control
0dB
−20dB
S1 (Audio muting)
Volume control
Balance control
OFF
ON
S2 Subsonic filter
Q201 Muting
Q202 Muting
To R channel
Tone control
LFB
IC71 AN7062 Voltage amplifier
Current mirror
Cascade
Current stabilizer
Bias
Muting
Driver
Q71
VR301 Ico control
Ico control circuit
Q301
Q607
Bias
IC301 SVISTK2048-2 Power amplifier
( ) indicates pin No. of right channel


PHONO
S501
TUNER
S502
AUX/CD/VIDEO
S503
SYNCHRO REC
(CD)
(PHONO)
SOURCE
S505
TAPE
S504
Q507
Q506
Q505
Q504
Q501
Q502
Q503
Q515
Q516
Q517
Q518
EQUALI-
ZER Ind.
D525
Q508
Q509
Q510
Q511
Q512
A
Direct connector 3
Output "L"
Input "L"
Output "L"
Input "H"
Input "H"
Output "L"
1
2
3
4
5
6
Amp→Deck synchro recording command
Equalizer→Amp comand
Amp→Deck comand
Deck→Amp comand
Equalizer→Amp comand
Amp→Deck comand
PHONO Ind.
D521
TUNER Ind.
D522
AUX/CD/ VIDEO Ind.
D523
TAPE Ind.
D524
22 Input "H"
23 Input "H"
21 Input "H"
20 Input "H"
19 Input "H"
3
4
2
5
13
11
+B
Signal sensor
IC602
IC601
MN1421STA
Ico control
Input "H"
Fan motor
M
IC602
11
6
Calculation of optimum bias
Protection circuit
Muting
VDD
7 11 12 13 14 6 5 4 3 2 1
17
16
15
25
26
8 9 10 18 19 20 22 27 28 23
Output "L"
Output "H"
Input "H"
Input "L"
Output "H"
Input "H"
Output "L"
Thermal sensor
130° (266°F)
Thermal sensor
60° (122°F)
IC602
2
15
1
16
IC602
Q604
Q603
(SAFETY)
(AUTO)
Power ON/OFF detection circuit
IC602
12
5
Clock OSC adj.
Q403
Switching
Speaker protection relay
⊕DC detector
Q611
Q609
Q610
⊖DC detector
Overload detector circuit
Q605
Q612
Q601
Rch
Ico control circuit
Q301
Q607
Tone control
LFB
IC71
AN7062
Voltage amplifier
15 (4)
13 (6)
14 (5)
12
Current mirror
Cascade
Current stabilizer
Bias
Muting
17
(2)
16 (3)
11 (8)
9
1
10
18
Driver
Q71
10
(13)
9
(14)
VR301
Ico control
6 (17)
5 (18)
1 (22)
11 (12)
Bias
2 (21)
3 (20)
4 (19)
7 (16)
8 (15)
IC301
SVISTK2048-2
Power amplifier
Q513
Muting control
0dB
-20dB
0dB
-20dB
S1 (Audio muting)
Volume control
Balance control
OFF
ON
OFF
ON
S2 Subsonic filter
Q201
Muting
Muting
Q202
To R channel
Rectifier
Power transformer
AC line
Q402
Regulator
Q401
Regulator
Q519
Q520
Power indicator
ON
OFF
S3 Super bass
Speaker terminal
(L ch)
Headphones jack
+B
-B

( ) indicates pin No. of right channel


Product for [EGA] only
A
B
C
D
E
F
G
H
I
PHONO
GND
(L ch)
(R ch)
Direct connector ①
Direct connector ②
Direct connector ③
TUNER IN (R ch.)
TUNER IN (L ch.)
DIRECT OPERATION (TUNER)
TUNER
AUX/CD/VIDEO
REC OUT
TAPE
PLAYBACK
REC OUT (Rch.)
REC OUT (Lch.)
PLAYBACK (R ch.)
PLAYBACK (L ch.)
J201
J202
Equalizer circuit and operation control circuit
IC101 SVINJM2043DD EQUALIZER
IC201 SVITC9151P INPUT SELECT
D501 MA27W-A
Q504~506, 515, 517 UN4111 SWITCHING
Q507, 508, 516, 518 UN4211 SWITCHING
D504~509, 513, 516~519 ✪MA150
D526, 527 MA1047M 4.7V ZENER
Q501, 502 UN4111 SWITCHING
Q503 UN4211 SWITCHING
D502, 503, 514 MA150 ✪
Input selector switches
S501 (PHONO)
S502 (TUNER)
S503 (AUX/CD/VIDEO)
S504 (TAPE)
S505 (SOURCE)
J501
J502
J503
J504
J505
J205
Test point for ICQ adj. (L ch.)
Q519 UN4111
Q509~512, 520 UN4211 SWITCHING
D521~524 SVGSLV31DC3 INPUT IND
D525 SVGSLV31YC3M GRAPHIC EQ IND
D510~512, 515, 520 ✪MA150
Q513 2SA1015 MUTING CONTROL
Q201, 202 2SK301 MUTING
D607 LN346GP AUTO IND
D608 LN446YP SAFETY IND
PL1 (POWER IND)
Bass tone control
Treble tone control
Audio muting switch
Volume control
Balance control
Subsonic filter switch
Function circuit
J301
J203
J204
J603
S1 (MUTING)
S2 (SUBSONIC FILTER)
D521: PHONO
D522: TUNER
D523: AUX/CD/VIDEO
D524: TAPE
D525: GRAPHIC EQ
Input terminal and operation control circuit
J501
J502
Synchro-recording terminal
(PHONO)
(CD)
Addition parts
① Amp → Deck synchro recording command
② Equalizer → Amp command
③ Amp ↔ Deck command
④ Deck → Amp command
⑤ Equalizer → Amp command
⑥ Amp → Deck stop command
Amp → Equalizer command


D Equalizer circuit and operation control circuit
IC101 SVINJM2043DD EQUALIZER
Q504~506, 515, 517 UN4111 SWITCHING
Q507, 508, 516, 518 UN4211 SWITCHING
D504~509, 513, 516~519 MA150
D526, 527 MA1047M 4.7V ZENER
G Input selector switches
S503 (AUX/CD/VIDEO)
S502 (TUNER)
S501 (PHONO)
S504 (TAPE)
S505 (SOURCE)
Q501, 502 UN4111 SWITCHING
Q503 UN4211 SWITCHING
D502, 503, 514 MA150
K Thermister P.C.B.
Q603 UN4111 SWITCHING (AUTO LED CONTROL)
Q604 2SC3112 SWITCHING (POWER ON/OFF)
Q601 UN4111 INVERTER
Clock adj.
D604 MA1062M 6.2V ZENER
Test point for micro-computer clock adj.
IC601 MN1421STA ICQ CONTROLLER
D601~603 MA150
J ICQ control circuit
Test point for ICQ adj. (L ch.)
Q607,608 2SA992 BIAS CONTROL
Q609, 611 2SC1815 DC DET
Q610 2SA1015 DC DET
D605, 606 MA162A
Q605, 606 2SA992 OVER LOAD DET
IC602 SVITD62501P INVERTER
Q612 2SC1845 SWITCHING (OVER LOAD DET)
Test point for ICQ adj. (R ch.)
D501 MA27W-A
IC201 SVITC9151P INPUT SELECT
Q519 UN4111
Q509~512, 520 UN4211 SWITCHING
D521~524 SVGSLV31DC3 INPUT IND
D525 SVGSLV31YC3M GRAPHIC EQ IND
D510~512, 515, 520 MA150
Q513 2SA1015 MUTING CONTROL
H
PL1 (POWER IND)
Bass tone control
Treble tone control
I
Q201, 202 2SK301 MUTING
D607 LN346GP AUTO IND
D608 LN446YP SAFETY IND
Audio muting switch
Volume control
Balance control
Subsonic filter switch
Function circuit
terminal and operation control circuit
connector 3
ng command
E
F
Synchro-recording terminal
(PHONO)
(CD)
D521: PHONO
D522: TUNER
D523: AUX/CD/VIDEO
D524: TAPE
D525: GRADHIC EQ


15
16
17
18
19
20
21
22
23
24
A
B
C
D
E
F
Main amplifier and power supply circuit
L
R
Voltage amplifier circuit
M
N
O
P
Q
S
IC71
AN7062
VOLTAGE AMP
CASCORD
CURRENT MIRROR
ICQ (L ch.) adj.
ICQ (R ch.) adj.
D301 ~ 306
MA150
Q301, 302
2SC2631
CURRENT STABILIZER
D307, 308
SVDMC911
D309, 310
SVDMC921
IC301
SVISTK2048-2M
POWER AMP
D71, 72
MA162ATRMS
Q71, 72
2SA1123
VOLTAGE AMP
Q401
2SD1265
REGULATOR
D401 ~ 404
SVDS3V20
RECTIFIER
D411
OA 90
D410
MA162A
D409
MA1062M
6.2V ZENER
Q402
2SD788
REGULATOR
D408
SVDSR1K2
RECTIFIER
D406
MA1160M
16V ZENER
D407
MA1150M
15V ZENER
Q403
2SC1845
SWITCHING
D405
MA150
[XA] only
Except for [XA]
Negative (−B) voltage line
Super bass switch and headphones jack
S3
(SUPER BASS)
Super bass switch
HEADPHONES
D351
MA150
SPEAKERS
L
R
Speaker terminal
Product for [EGA] only
Addition parts
T1
(POWER)
S4
F1 250V T1.6A
UNSWITCHED
AC 220V (50Hz/60Hz)
Power supply fuse
J204
J205
J301
J4
J601
J602
RLY401

IC71 AN7062 VOLTAGE AMP

1	0	6	48.2	11	47.8	16	-0.2
2	-0.2	7	47.0	12	47.0	17	-0.2
3	-0.2	8	47.8	13	48.2	18	-11.4
4	47.2	9	48.5	14	47.2		
5	47.2	10	-15.2	15	47.2		

IC301 SVISTK2048-2M POWER AMP

1	47.5	5	1.2	9	-2.2	13	-1.1	17	1.6	21	0
2	0	6	1.7	10	-1.2	14	-2.2	18	1.1	22	49.7
3	-48.0	7	-1.7	11	2.2	15	-1.1	19	-49.9		
4	-49.8	8	-1.1	12	2.2	16	-1.6	20	0		

SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology.)

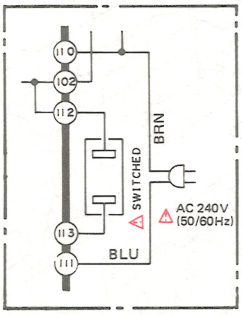
- **The part No. of transistors, IC and diodes mentioned in the schematic diagram stand for production part No. Regarding the Part No. with ✪ mark, the production part No. are different from the replacement part No. Therefore, when placing an order for replacement parts, please use the part No. in the replacement parts list.**

Notes: 1. **S1** : Audio muting switch in **"0dB"** position.
0dB ⟷ –20dB
2. **S2** : Subsonic filter switch in **"off"** position.
off ⟷ on
3. **S3** : Super bass switch in **"off"** position.
off ⟷ on
4. **S4** : Power switch in **"on"** position.
5. **S501 ~ 503** : Input selector switch in **"phono"** position.
S501: phono, **S502**: tuner, **S503**: aux/CD/video
6. **S504, 505** : Tape-monitor selector switch in **"source"** position.
S504: tape, **S505**: source
7. **S506 (XA) only** : Voltage selector switch in **"220V"** position.
120V ⟷ 110V ⟷ 220V ⟷ 240V
8. The headphone jack switch is being short-circuited. (With the headphone plug not inserted)
9. ▭ Indicated voltage values are the standard values for the DC electronic circuit tester (high impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
10. ⇨ Phono signal lines of left channel.
11. ➡ Positive (+B) voltage lines.
12. ➡ Negative (–B) voltage line.
13. Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

CIRCUITS TO BE CHANGED AND THE AREAS

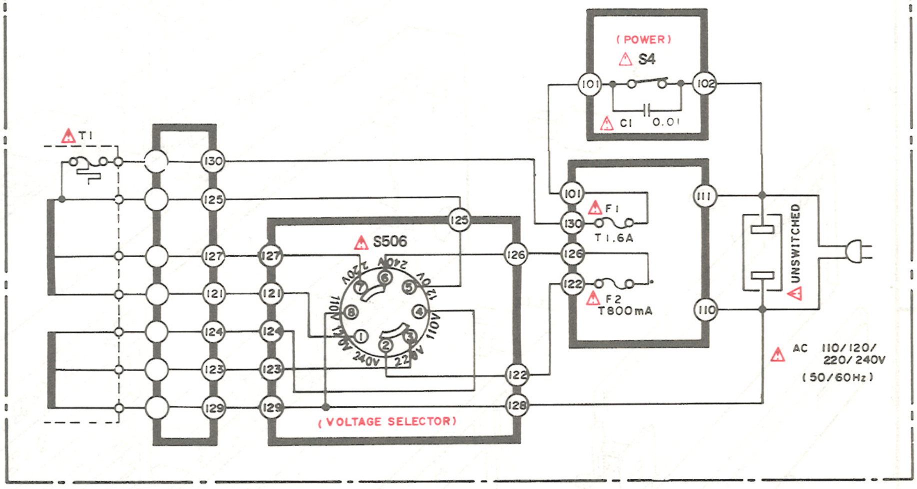
- **Power source circuit**

Product for [EK] only


110
102
112
113
111
BRN
SWITCHED
BLU
⚠ AC 240V (50/60Hz)

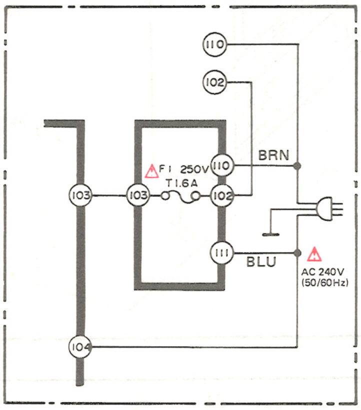
* [EK] is available in United Kingdom.

Product for [XA] only


⚠ T1
(POWER)
⚠ S4
101
102
⚠ C1 0.01
130
125
127
121
124
123
129
⚠ S506
126
122
128
(VOLTAGE SELECTOR)
110V
120V
220V
240V
101
130
126
122
⚠ F1 T1.6A
⚠ F2 T800mA
111
110
UNSWITCHED
⚠ AC 110/120/220/240V (50/60Hz)

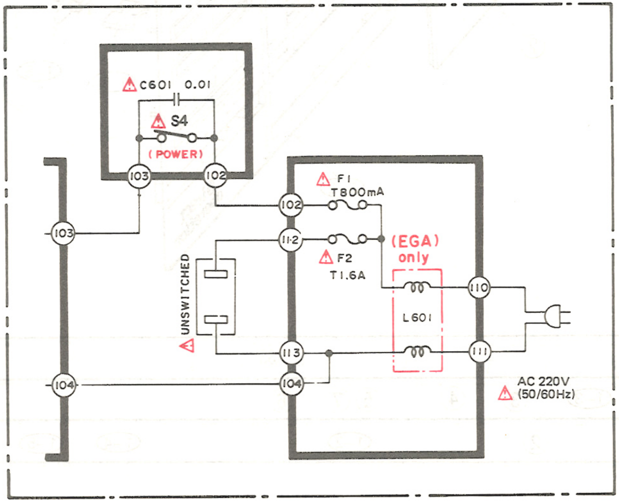
* [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.

Product for [XL] only


110
102
103
⚠ F1 250V T1.6A
110
102
111
BRN
BLU
⚠ AC 240V (50/60Hz)
104

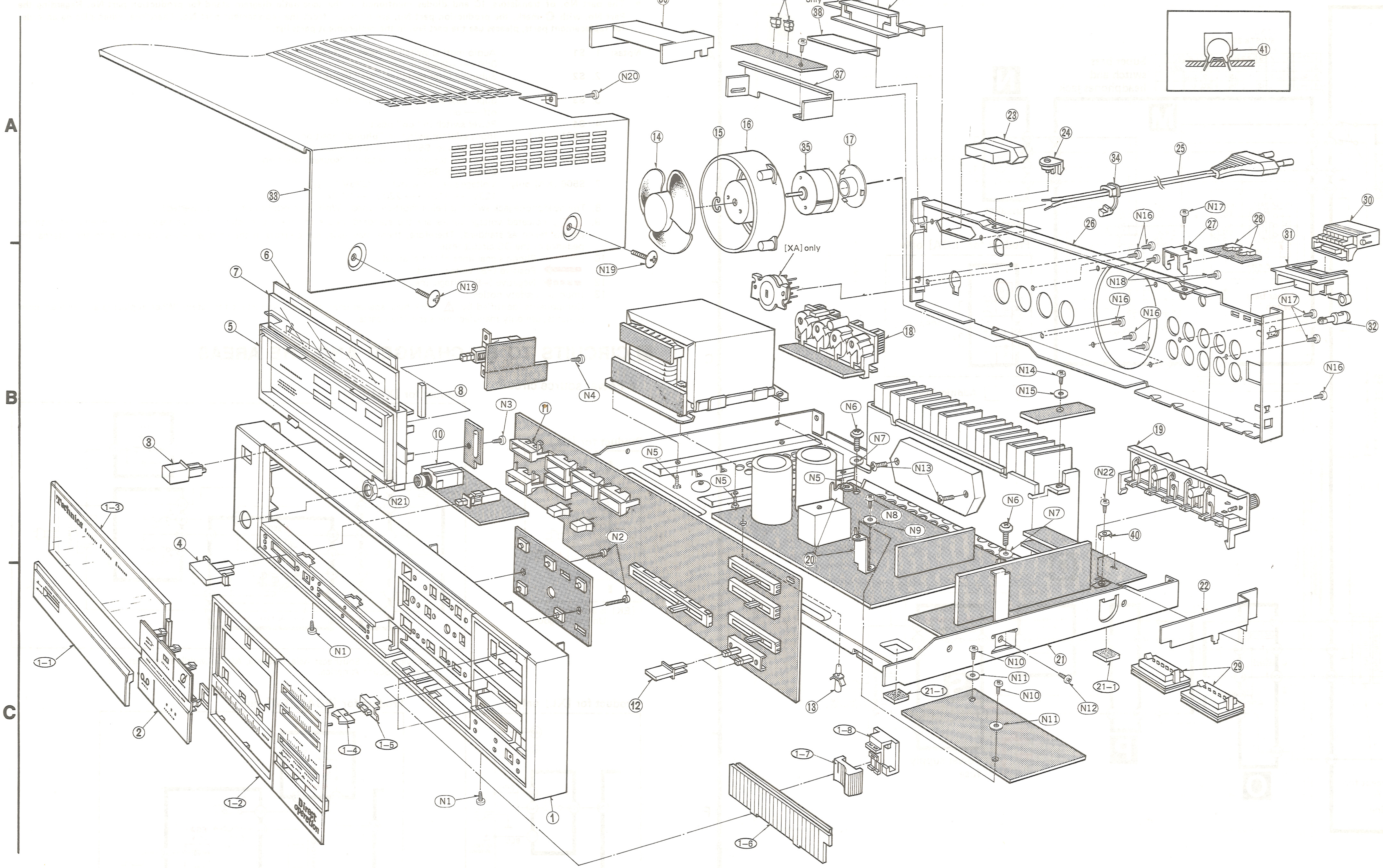
* [XL] is available in Australia.

Product for [EGA], [EW] only


⚠ C601 0.01
⚠ S4
(POWER)
103
102
103
102
⚠ F1 T800mA
112
⚠ F2 T1.6A
(EGA) only
L601
110
111
113
104
104
UNSWITCHED
AC 220V ⚠ (50/60Hz)

* [EGA] is available in F.R. Germany.
* [EW] is available in Switzerland.

EXPLODED VIEWS


A
B
C
[EW, XL] only
[XA] only
㉝ ㊱ ⑨ ㊳ ㊴ ㊲ ㊶
N20 N19
⑭ ⑮ ⑯ ㉟ ⑰
㉓ ㉔ ㉞ ㉕ ㉚ ㉖ ㉗ ㉘ ㉛ ㉜
N16 N17 N18
⑥ ⑦ ⑤ ⑧ N4
⑱ ⑲ N14 N15
③ ⑩ N3 ⑪ N5 N6 N7 N13 N22 ㊵
N21 N8 N9 ⑳
1-3 ④ N2
1-1 ② 1-2 1-4 1-5 N1 ①
⑫ ⑬ 1-6 1-7 1-8
N10 N11 N12 21-1 ㉑ ㉒ ㉙
Technics
Direct operation

A	㉝ ㊱⑭ ⑮ ⑯ ⑨ ㉟㊳㊲ ⑰ ㊴ ㉓ ㉔ ㉖ ㉞ ㉕ ㉗ ㉘㊶ ㉛ ㉚
B	(1-3) ③ ④ ⑤⑦ ⑥ ⑩ ⑧ ⑪ ⑳ ⑱ ㊵ ⑲ ㉜
C	(1-1) ② (1-2) (1-4) (1-5) ① ⑫ (1-6) (1-7)⑬ (1-8) (21-1) ㉑ (21-1) ㉒ ㉙

■ REPLACEMENT PARTS LIST

Notes:
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts order.
2. Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. Ⓚ —marked parts are used for black only, while ○ —marked parts are for silver type only.
4. Part other than Ⓚ — and ○—marked are used for both black and silver type.
5. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
6. The Ⓢ mark is service standard parts and may differ from production parts.
7. The parenthesized numbers in the column of description stand for the quantity per set.

Black type model No. : SU-8(K)

Ref. No.	Part No.	Part Name & Description
INTEGRATED CIRCUITS		
IC71	AN7062	Voltage Amp
IC101	SVINJM2043DD	EQ Amp
IC201	SVITC9151P	Selector Amp
IC301	SVIK2048—2M	Power Amp
IC601	MN1421STA	Micro Computer (IcQ Control)
IC602	SVITD62501P	Inverter
TRANSISTORS		
Q71,72 Ⓢ	2SA1123—R	Driver
Q201,202	2SK301—S	Mute
Q301,302 Ⓢ	2SC2631—Q	IcQ Control
Q401	2SD1265—O	Regulator
Q402	2SD788—D	Regulator
Q403,612 Ⓢ	2SC1845—E	Switching
Q501,502, 504~506,515, 517,519,601, 603	UN4111	Switching
Q503,507~512, 516,518,520	UN4211	Switching
Q604	2SC3112	Switching (power on/off DET)
Q513,610 Ⓢ	2SA1015—Y	Switching (Muting Control)
Q605~608 Ⓢ	2SA992	Switching (DC, DET)
Q609,611 Ⓢ	2SC1815—Y	DC Detector
DIODES		
D71,72 Ⓢ	MA162A	Switching
D301~306, 351,405, 502~520, 601~603 Ⓢ	MA162A	Switching
D307,308	SVDMC911	Switching
D309,310	SVDMC921	Switching
D401~404 ⚠	SVDS3V40	Rectifier
D406 Ⓢ	RD16EB	16V, Zener
D407	MA1150M	15V, Zener
D408 ⚠	SVDSR1K2	Rectifier
D409,604	MA1062M	6V, Zener
D410,605,606	MA162A	DC, DET
D411 Ⓢ	20A90	Regulator
D501	MA27W—A	Switching
D526,527	MA1047—M	4.7V, Zener
D521~524	SVGSLV31DC3	LED, input
D525	SVGSLV31YC3M	LED, EQ
D607	LN346GP	LED, auto
D608	LN446YP	LED, Safety
COILS		
L151~154〔EGA〕 only	ELQS181KB	Choke
L301,302	SLQY07G—30	Choke
L601〔EGA〕only	SLQZ650MH49	Choke
TRANSFORMER		
T1 [EK] ⚠	SLT5N433	Power Source
T1 [XA] ⚠	SLT5N435	Power Source
T1 [other] ⚠	SLT5N431	Power Source
VARIABLE RESISTORS		
VR201	EWAQA6X15A15	Volume
VR202	EWANF5X15G15	Balance
VR203,204	EWANA6X15C15	Tone
VR301,302	EVNK6AA00B53	IcQ Control
VR601	EVNK6AA00B14	400kHz Clock
THERMISTERS		
PS601	SRPBH47101	60°C (140°F)
PS602	SRPBA47101	130°C (266°F)
RELAY		
RLY401 ⚠	SSY105	Speaker Protection
COMPONENT COMBINATIONS		
Z401 [XA] only	SXRFS203ZSM	$0.01\mu F \times 2$
Z601	EXBP84103M	$10k\Omega \times 4$
LAMP		
PL1 ⚠	XAMS6Q8C	Power Ind.
FUSES		
F1 ⚠	XBA2C16TRO	250V, T1.6A
F2〔XA〕only ⚠	XBA2C31TRO	250V, T3.15A
F2〔EGA,EW〕 only ⚠	XBA2C16TRO	250V, T1.6A
SWITCHES		
S1,2	SSH2069	Mute
S3	SSH1127	Super Bass
S4 ⚠	SSH1071	Power
S501~505	SSG13	Selector
S506 ⚠	ESE37219	Voltage Selector
CABINET and CHASSIS PARTS		
1 ○	SGWU8—SE	Front Panel Ass'y (Silver) (1)
1 Ⓚ	SGWU8—KE	Front Panel Ass'y (Black) (1)
1—1 ○	SGX7559—2	Ornament Plate, Super Bass (Silver) (1)
1—1 Ⓚ	SGX7559—3	Ornament Plate, Super Bass (Black) (1)
1—2 ○	SGX7561—7	Grille, Volume (Silver) (1)
1—2 Ⓚ	SGX7561—9	Grille, Volume (Black) (1)
1—3 ○	SGU379—1	Transparent Plate, LED Display (Silver) (1)
1—3 Ⓚ	SGU379—3	Transparent Plate, LED Display (Black) (1)
1—4	SBD69—1	Button, Treble, Bass, Balance (Silver) (3)
1—5	SHR9673	Holder, Treble, Bass, Balance (Black) (3)
1—6 ○	SGXU8—SN	Holder Ass'y, Volume (Silver) (1)
1—6 Ⓚ	SGXU8—KE	Holder Ass'y, Volume (Black) (1)
1—7	SBD83—1	Button, Volume (Silver) (1)
1—8	SHR9675—1	Holder, Volume (Black) (1)
2 ○	SBC629	Button Selector (Silver) (1)
2 Ⓚ	SBC629—1	Button, Selector (Black) (1)
3	SBC489	Button, Power (1)
4	SBC439	Button, Super Bass (1)
5	SMP357—1	Holder, Display (1)
6	SKDU8—SE	Filter Ass'y, Display (1)
7 ○	SGU381—4	Thin Plate, Display (Silver) (1)
7 Ⓚ	SGU381—6	Thin Plate, Display (Black) (1)
8	SHG435	Rubber, Spacer (1)
9	SJT347	Crip, Fuse (2)
10	SJJ63F	Jack, Headphone (1)
11	SMP355	Holder, LED Ind. (with LED) (1)
12	SBC315—5	Button, Muting, Subsonic Filter (2)
13	SHR9693	Holder, Spacer (1)
14	SHE143	Fan (1)
15	SUS271	Spring, Fan (1)
16	SME95	Cover, Fan (1)
17	SME97	Cover, Fan (1)
18	SJF4437—1	Terminal Board, Speaker (1)
19	SJF3055N	Terminal Board, In/Out put (1)
20	SUW2109	Bracket, PCB (1)
21〔EX〕	SKUU8—SE	Bottom Board Ass'y (with SGT32410 & Foot) (1)
21〔EK〕	SKUU8—SK	Bottom Board Ass'y (with SGT32250 & Foot) (1)
21〔EW〕	SKUU8—SW	Bottom Board Ass'y (with SGT32370 & Foot) (1)
21〔XA〕	SKUU8—SX	Bottom Board Ass'y (with SGT32330 & Foot) (1)
21〔other〕	SKUU8—SG	Bottom Board Ass'y (with SGT32290 & Foot) (1)
21—1	SHS2481	Foot
22	SMC991—2	Shield Cover, PCB (1)
23〔EK〕 ⚠	SJS9227	Socket, Outlet (1)
23〔other〕 ⚠	SJS9225	Socket, Outlet (1)
24	SHR9631	Pin, Holder (1)
25〔EK〕	QFC1205M	AC Cord (1)
25〔XA〕	SJA111	AC Cord (1)
25〔XL〕	QFC1207MA	AC Cord (1)
25〔other〕	SJA138—3	AC Cord (1)
26〔XA〕	SGP3851—2A	Rear Panel (1)
26〔XL〕	SGP3851—3A	Rear Panel (1)
26〔EK〕	SGP3851—4A	Rear Panel (1)
26〔other〕	SGP3851—1A	Rear Panel (1)
27	SUW2099	Bracket, PCB (1)
28	SJJ75BK	Jack (2)
29	SJS9605	Connector (1)
30	SJS9607—1	Connector (1)
31	SHR9631	Connector (1)
32 ○	SHE135	Pin, Holder (Silver) (1)
32 Ⓚ	SHE135—1	Pin, Holder (Black) (1)
33 ○	SKC1111S3	Cabinet (Silver) (1)
33 Ⓚ	SKC1111BB3	Cabinet (Black) (1)
34〔XL〕	SHR131	Bushing, AC Cord (1)
34〔EK〕	SHR129	Bushing, AC Cord (1)
34〔other〕	SHR127	Bushing, AC Cord (1)

Ref. No.	Part No.	Part Name & Description
35	MMN6C2RKMS	Motor (1)
36	SMX823	Insulation Sheet, Fuse PCB (1)
37	SUW2151	Bracket, Fuse PCB (1)
38〔EK,XL〕only	SMX319−3	Insulation Sheet, AC Socket (1)
39	SMN1865	Bracket, AC Socket (1)
40	SUW2107	Bracket, Equalizer PCB (1)
41	SMX685	Insulation Cover, Capacitor (1)
SCREWS, WASHERS and NUT		
N1 Ⓢ	XTB3+10BFZ	Tapping, ⊕3×10(2)
N2 Ⓢ	XTB3+16BFN	Tapping, ⊕3×16(2)
N3 Ⓢ	XTB3+8BFN	Tapping, ⊕3×8 (1)
N4 Ⓢ	XTB3+8BFN	Tapping, ⊕3×8 (1)
N5 Ⓢ	XTB4+8BFN	Tapping, ⊕4×8 (4)
N6 Ⓢ	XTB3+8BFN	Tapping, ⊕3×8 (2)
N7 Ⓢ	XWG3	Washer, ϕ3 (2)
N8 Ⓢ	XTB3+8BFN	Tapping, ⊕3×8 (2)
N9 Ⓢ	XWG3	Washer, ϕ3 (2)
N10 Ⓢ	XTB3+8BFN	Tapping, ⊕3×8 (2)

Ref. No.	Part No.	Part Name & Description
N11 Ⓢ	XWG3	Washer, ϕ3 (2)
N12 Ⓢ	XTB3+8BFN	Tapping, ⊕3×8 (1)
N13 Ⓢ	XTB3+16BFN	Tapping, ⊕3×16(2)
N14 Ⓢ	XTB3+8BFN	Tapping, ⊕3×8 (1)
N15 Ⓢ	XWG3	Washer, ϕ3 (1)
N16 Ⓢ	XTB3+8BFZ	Tapping, ⊕3×8 (5)
N17 Ⓢ	XTB3+8BFZ	Tapping, ⊕3×8 (2)
N18 Ⓢ	XTB3+8BFZ	Tapping, ⊕3×8 (2)
N19 ○	SNE2095−2	Screw, Cabinet (Silver) (4)
N19 Ⓚ	SNE2095−3	Screw, Cabinet (Black) (4)
N20 Ⓢ	XTB3+8BFZ	Tapping, ⊕3×8 (1)
N21 Ⓢ	XNS12	Nut, Head Phone Jack (1)
N22 Ⓢ	XTB3+8BFN	Tapping, ⊕3×8 (1)
ACCESSORIES		
A1〔EK〕only ⚠	SJP5219−1	Plug (1)
A2〔EGA〕only ⚠	XBA2C16TRO	Fuse (3)
A3〔XA〕only ⚠	SJP5213−1	Plug (1)
A4〔XA〕only ⚠	SJP5215	Plug (1)
A5	SJP2257	Cord (1)

Ref. No.	Part No.	Part Name & Description
A6〔EGA〕	SQF11997	Instruction Book (1)
A6〔EK〕	SQF11999	Instruction Book (1)
A6〔EI〕	SQF12001	Instruction Book (1)
A6〔XA〕	SQF12003	Instruction Book (1)
A6〔XL〕	SQF12005	Instruction Book (1)
A6〔other〕	SQF11995	Instruction Book (1)
PACKING PARTS		
P1〔XL〕 ○	SPG4737	Carton Box (1)
P1〔EF〕 ○	SPG4735	Carton Box (1)
P1〔EK〕 ○	SPG4733	Carton Box (1)
P1〔EK〕 Ⓚ	SPG4743	Carton Box (1)
P1〔other〕 ○	SPG4731	Carton Box (1)
P1〔other〕 Ⓚ	SPG4741	Carton Box (1)
P2〔XL〕	SPS3917−3	Pad, Left (1)
P2〔other〕	SPS3917−2	Pad, Left (1)
P3〔XL〕	SPS3919−4	Pad, Right (1)
P3〔other〕	SPS3919−3	Pad, Right (1)
P4	SPS4379	Pad (1)
P5	SPS4378	Pad (1)
P6	SPP659	Polyethylene Sheet (1)

RESISTORS & CAPACITORS

Notes:

1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
3. The "Ⓢ" mark is service standard parts and may differ from production parts.
4. The unit of resistance is Ω(ohm), K = 1000Ω, M = 1000kΩ.
5. The unit of capacitance is μF (microfarad). P = 10^{-6} μF
6. Bracketed indications in Ref. No. columns spedify the area. Parts without these indications can be used for all areas.

Resistor Type	Wattage	Tolerance
ERD : Carbon	10 : 1/8W	J : ±5%
ERG : Metal Oxide	25 : 1/4W	
	1 : 1W	
	2 : 2W	
	3 : 3W	
	S1 : 1/2W	

ERD10TLJ □□□ → Chip type carbon

Capacitor Type	Voltage		Tolerance
	ECEA Type	Other	
ECEA : Electrolytic	1A : 10V	1H : 50V DC	J : ±5%
ECCD : Ceramic	1C : 16V	KC : 400V DC	K : ±10%
ECKD : Ceramic	1E : 25V	1 : 50V DC	Z : +80%, −20%
ECQM : Polyester	1H : 50V	56 : 56V	P : +100%, −0%
ECET : Electrolytic	50 : 50V		
ECEA . . . N : Non Polar Electrolytic	25 : 25V		
ECQE : Polyester			

● RESISTORS

Ref. No.	Part No.	Value
R71,72	ERD10TLJ334U	330K
R73,74	ERD10TLJ102U	1K
R75,76	ERD10TLJ124U	120K
R77,78	ERD10TLJ103U	10K
R79,80	ERD10TLJ220U	22
R101,102 Ⓢ	ERD25FJ391	390
R103,104 Ⓢ	ERD25TJ224	220K
R105,106 Ⓢ	ERD25TJ563	56K
R107,108 Ⓢ	ERD25FJ271	270
R109,110 Ⓢ	ERD25FJ680	68
R111,112 Ⓢ	ERD25TJ184	180K
R113,114 Ⓢ	ERD25TJ123	12K
R115,116 Ⓢ	ERD25TJ563	56K
R117,118 Ⓢ	ERD25FJ102	1K
R119,120 Ⓢ	ERD25FJ101	100
R151,152 Ⓢ 〔EGA〕only	ERD25FJ391	390
R153,154 Ⓢ 〔EGA〕only	ERD25FJ272	2.7K
R155~160 Ⓢ 〔EGA〕only	ERD25FJ222	2.2K
R161 Ⓢ 〔EGA〕only	ERD25FJ100	10
R201,202 Ⓢ	ERD25FJ332	3.3K
R203,204 Ⓢ	ERD25TJ333	33K
R205,206 Ⓢ	ERD25FJ392	3.9K
R207,208 Ⓢ	ERD25TJ223	22K
R209,210 Ⓢ	ERD25FJ392	3.9K
R211,212 Ⓢ	ERD25FJ472	4.7K
R213,214 Ⓢ	ERD25FJ102	1K
R215,216 Ⓢ	ERD25TJ154	150K
R217,218 Ⓢ	ERD25FJ152	1.5K
R219,220 Ⓢ⚠	ERD25FJ560	56
R221,222 Ⓢ	ERD25TJ153	15K
R301,302 Ⓢ	ERD25TJ393	39K
R303,304 Ⓢ	ERD25TJ823	82K
R305,306 Ⓢ	ERD25FJ821	820
R307,308 Ⓢ	ERD25TJ473	47K
R309,310 Ⓢ⚠	ERD25FJ561	560
R311,312 Ⓢ⚠	ERD25FJ820	82
R313,314 Ⓢ	ERD25FJ122	1.2K
R319,320 Ⓢ	ERD25FJ103	10K
R321,322 Ⓢ	ERD25TJ154	150K
R323,324 Ⓢ	ERD25TJ154	150K
R325,326 Ⓢ⚠	ERD25FJ100	10
R341 Ⓢ⚠	ERD25FJ470	47
R342 Ⓢ	ERD25TJ393	39K
R343,344 ⚠	ERDS1FJ100	10
R351,352 Ⓢ	ERG1ANJ331	330
R353,354 Ⓢ	ERD25TJ333	33K
R355,356 Ⓢ	ERD25FJ681	680
R357,358 Ⓢ	ERX2ANJR22	0.22
R359,360 Ⓢ	ERD25TJ683	68K
R401	ERG2ANJ821	820
R402 Ⓢ	ERG2ANJ181	180
R403 Ⓢ	ERD25FJ472	4.7K
R404 Ⓢ	ERG1ANJ222	2.2K
R405 Ⓢ	ERG1ANJ470	47
R406 Ⓢ	ERD25FJ222	2.2K
R407 ⚠	ERDS1FJ221	220
R408 Ⓢ	ERD25FJ182	1.8K
R409 Ⓢ	ERD25TJ183	18K
R501 Ⓢ	ERD25TJ124	120K
R502 Ⓢ	ERD25FJ682	6.8K
R503,504 Ⓢ	ERD25TJ153	15K
R505,506 Ⓢ	ERD25TJ223	22K
R507 Ⓢ	ERD25TJ223	22K
R508 Ⓢ	ERD25TJ473	47K
R509 Ⓢ	ERD25FJ103	10K
R511 Ⓢ	ERD25TJ824	820K
R513,514 Ⓢ	ERD25FJ562	5.6K
R515 Ⓢ	ERD25FJ103	10K
R516 Ⓢ	ERD25TJ223	22K
R517 Ⓢ	ERD25FJ682	6.8K
R518,519 Ⓢ	ERD25FJ561	560
R520,521 Ⓢ	ERD25FJ561	560
R522 ⚠	ERDS1FJ471	470
R531 Ⓢ	ERD25FJ561	560
R601,602 Ⓢ	ERD25FJ103	10K
R603 Ⓢ	ERD25FJ272	2.7K
R604 Ⓢ	ERD25FJ471	470
R607 Ⓢ	ERD25FJ472	4.7K
R608 Ⓢ	ERD25FJ103	10K
R611 Ⓢ	ERD25FJ103	10K
R612 Ⓢ	ERD25FJ272	2.7K
R613,614 Ⓢ	ERD25FJ103	10K
R615 Ⓢ	ERD25FJ821	820
R617 Ⓢ	ERD25FJ472	4.7K
R618 Ⓢ	ERD25TJ333	33K
R619 Ⓢ	ERD25TJ223	22K
R620 Ⓢ	ERD25TJ333	33K
R621 Ⓢ	ERD25TJ183	18K
R622,623 Ⓢ	ERD25TJ181	180
R624 Ⓢ	ERD25FJ103	10K
R625,626 Ⓢ⚠	ERD25FJ331	330
R627,628 Ⓢ⚠	ERD25FJ821	820
R629,630 Ⓢ	ERD25FJ272	2.7K
R631,632 Ⓢ	ERD25FJ103	10K
R633,634 Ⓢ	ERD25TJ154	150K
R635 Ⓢ	ERD25TJ393	39K
R636,637 Ⓢ	ERD25FJ103	10K
R638,639 Ⓢ	ERD25FJ103	10K

● CAPACITORS

Ref. No.	Part No.	Value
C1 ⚠	ECKDKC103PF2	0.01
C71,72 Ⓢ	ECEA50Z3R3	3.3
C73,74 Ⓢ	ECCD1H390K	39P
C75,76 Ⓢ	ECCD1H820K	82P
C77,78 Ⓢ	ECKD1H391KB	390P
C101,102 Ⓢ	ECEA50Z3R3	3.3
C103,104 Ⓢ	ECCD1H101K	100P
C105,106 Ⓢ	ECKD1H471KB	470P
C107,108 Ⓢ	ECEA1CS330	33
C109,110	ECQM1H223KV	0.022
C111,112 Ⓢ	ECQM1H682JZ	0.0068
C113,114 Ⓢ	ECEA1CS330	33
C117 Ⓢ	ECKD1H103ZF	0.01
C151,152 Ⓢ	ECCD1H180KC	18P
〔EGA〕only		
C201,202 Ⓢ	ECKD1H331KB	330P
C203,204	ECQM1H563KV	0.056
C205,206	ECQM1H183KV	0.018
C207,208	ECQM1H683KV	0.068
C209.210	ECQM1H222KV	0.0022
C211,212	ECQM1H183KV	0.018
C213,214 Ⓢ	ECEA50Z1	1
C215 Ⓢ	ECEA50Z1	1
C301,302 Ⓢ	ECEA1HS100	10
C303,304 Ⓢ	ECCD1H030CC	3P
C305,306 Ⓢ	ECKD1H681KB	680P
C307,308 Ⓢ	ECCD1H150KC	15P
C309,310 Ⓢ	ECKD1H103ZF	0.01
C311,312 Ⓢ	ECCD1H101K	100P
C317,318 Ⓢ	ECKD1H223ZF	0.022
C319,320 Ⓢ	ECCD1H390K	39P
C321,322 Ⓢ	ECEA1HS100	10
C341 Ⓢ	ECEA1HS101	100
C350 Ⓢ	ECEA50Z1	1
C351 Ⓢ	ECEA50Z3R3	3.3
C361,362 Ⓢ	ECKD1H103ZF	0.01
〔EGA〕only		
C401,402	ECETS56V103U	10000
C403 Ⓢ	ECEA1HS100	10
C404 Ⓢ	ECEA1ES470	47
C405 Ⓢ	ECEA1ES471	470
C406 Ⓢ	ECKD1H103ZF	0.01
C407 Ⓢ	ECEA50Z3R3	3.3
C451	ECQE1104KN	0.1
C501 Ⓢ	ECEA50ZR33	0.33
C502 Ⓢ	ECEA1CS102	1000
C503 Ⓢ	ECKD1H103ZF	0.01
C504 Ⓢ	ECEA50ZR47	0.47
C505,508 Ⓢ	ECEA50Z1	1
C509 Ⓢ	ECKD1H103ZF	0.01
C531 Ⓢ	ECEA1ES470	47
C532 Ⓢ	ECEA50ZR22	0.22
C533 Ⓢ	ECKD1H103ZF	0.01
C601 Ⓢ	ECEA1CS330	33
C602 Ⓢ	ECEA25Z4R7	4.7
C603 Ⓢ	ECKD1H103ZF	0.01
C604 Ⓢ	ECEA1AS101	100
C605 Ⓢ	ECCD1H151K	150P
C606 Ⓢ	ECEA25Z4R7	4.7
C607 Ⓢ	ECEA1HS100	10
C608 ⚠	ECEA1CN330S	33
C619,120 Ⓢ	ECEA50ZR22	0.22

Areas

- * [EX] is available in Scandinavia.
- * [EGA] is available in F.R. Germany.
- * [EH] is available in Holland.
- * [EB] is available in Belgium.
- * [EW] is available in Switzerland.
- * [EF] is available in France.
- * [EK] is available in United Kingdom.
- * [Ei] is available in Italy.
- * [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.
- * [XL] is available in Australia.

Printed in Japan
831208250 Ⓚ YK/IM Ⓙ

ORDER NO. HAD83122677C8–A

Stereo Integrated Amplifier SU-8/SU-8 (K)

- This booklet includes the specifications and adjustment of Model SU-8 (Order No. HAD83122677C8) written in German, French and Spanish.
- File this booklet together with the service manual of Model SU-8.

- Dieses Büchlein umfaßt die technischen Daten und Justierungsanleitungen von Modell SU-8 (Bestell Nr. HAD83122677C8) in den Sprachen Deutsch, Französisch und Spanisch.
- Bewahren Sie dieses Büchlein zusammen mit dem Service-Handbuch von Modell SU-8. auf.

- Cette brochure comprend les spécifications et la mise au point du Modèle SU-8 (N° d'Ordre HAD83122677C8) écrites en allemand, en français et en espagnol.
- Classer cette brochure en même temps qu'avec le manuel de service du Modèle SU-8 .

- Este librito incluye las especificaciones y ajuste de Modelo SU-8. (Pedido Nº HAD83122677C8) escritas en alemán, francés y español.
- Guardar este librito juntamente con el manual de servicio de Modelo SU-8.

DEUTSCH

TECHNISCHE DATEN

(Spezifikationen Können infolge von Verbesserungen ohne Ankündigung geändert werden.)

(DIN 45 500)

VERSTÄRKERTEIL

Dauerton-Ausgangsleistung bei 20 Hz ~ 20 kHz	
beide Kanäle ausgesteuert	2 × 65W (8 Ω)
Dauerton-Ausgangsleistung bei 1 kHz	
beide Kanäle ausgesteuert	2 × 75W (8 Ω)
Gesamtklirrfaktor	
Nennleistung bei 20 Hz ~ 20 kHz	0,03% (8 Ω)
Nennleistung bei 1 kHz	0,8% (8 Ω)
halbe Nennleistung bei 20 Hz ~ 20 kHz	0,03% (8 Ω)
halbe Nennleistung bei 1 kHz	0,005% (8 Ω)
Intermodulationsfaktor	
Nennleistung bei 60 Hz: 7 kHz = 4:1, nach SMPTE, 8 Ω	0,03%
Leistungsbandbreite	
beide Kanäle ausgesteuert bei −3 dB	10 Hz ~ 30 kHz (8 Ω)
Restbrumm und Geräusch	0,7 mV
Dämpfungsfaktor	50 (8 Ω)
Eingangsempfindlichkeit und -impedanz	
PHONO	2,5 mV/47 kΩ
TUNER, AUX/CD/VIDEO	150 mV/27 kΩ
TAPE	150 mV/27 kΩ
Maximale TA-Eingangsspannung (1 kHz, eff.)	150 mV
Geräuschabstand	
Nennleistung (8 Ω)	
PHONO	78 dB (nach IHF, A: 81 dB)
TUNER, AUX/CD/VIDEO, TAPE	89 dB (nach IHF, A: 98 dB)
Frequenzgang	
PHONO	RIAA-Standardkurve ±0,8 dB (30 Hz ~ 15 kHz)
TUNER, AUX/CD/VIDEO, TAPE	10 Hz ~ 120 kHz (−3 dB)
Klangregler	
Baßregler (BASS)	50 Hz, +10 dB ~ −10 dB
Höhenregler (TREBLE)	20 kHz, +10 dB ~ −10 dB
Ausgangsspannung und -impedanz	
Aufnahmeausgang (REC OUT)	150 mV
Kanalabweichung (AUX/CD/VIDEO 250 Hz ~ 6300 Hz)	±1 dB
Übersprechdämpfung (AUX/CD/VIDEO, 1 kHz)	55 dB
Kopfhörerpegel und -impedanz	580 mV/330 Ω
Lautsprecherimpedanz	8 Ω ~ 16 Ω

ALLGEMEINE DATEN

Leistungsaufnahme	360 W
Netzspannung	
Für Kontinentaleuropa	Wechselstrom 50 Hz/60 Hz, 220V
Für andere Länder	Wechselstrom 50 Hz/60 Hz, 110V/120V/220V/240V
Abmessungen (B×H×T)	315 × 99 × 245 mm
Gewicht	5,8 kg

Bemerkung:
Der Gesamtklirrfaktor wurde mit einem digitalen Rauschspektrometer (Anlage H.P. 3045) gemessen.

■ MESSUNGEN UND JUSTIERUNGEN

1. Justierung des Taktgebers (nach dem Auswechseln des Mikrocomputers)

(1) Das Oszilloskop an TP1 anschließen (Siehe Abb. 19).

(2) VR601 so justieren, daß die Periode der Wellenform 2,5μsec. beträgt.

2. Justierung des Leerlaufs (I_{CQ}) (nach Reparatur des Hauptverstärkers)

(1) Nach der Reparatur ist die Lautstärke auf Minimum einzustellen, bevor der Netzschalter eingeschaltet wird, und es sollte nichts an die Lautsprecheranschlüsse angeschlossen werden.

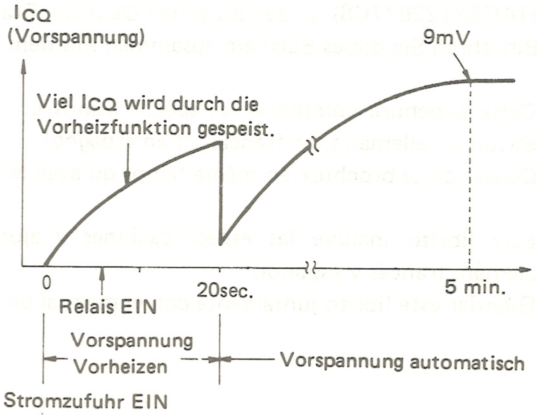
(2) Den I_{CQ}−Regler (VR301, 302) vollständig entgegen dem Rechtläufig drehen.

(3) Die an den Verstärker angelegte Spannung allmählich mit dem Spannungsregler erhöhen und vor Beginn der Justierung ist der Wert in der nachstehenden Tabelle zu überprüfen.

(4) Das elektronische Gleichstrom−Voltmeter an TP3 (+) und TP4 (−) (linker Kanal) oder TP5 (+) und TP6 (−) (rechter Kanal) anschließen.

(5) Nach Ablauf von 5 minuten nach Aufleuchten von Computer Drive Monitor "auto", VR301 (linker Kanal) oder VR302 (rechter Kanal) auf 9mV abgleichen.

* In diesem Gerät wird I_{CQ} durch den Mikrocomputer gesteuert, und I_{CQ} von ein wenig mehr als dem normalen Pegel wird durch "PREHEAT" während 20 Sekunden nach Einschalten der Stromzufuhr gespeist. Nachher werden der Ausgangspegel und die Transistortemperatur durch "AUTO" erfaßt, und dadurch wird I_{CQ} automatisch gesteuert.



FRANÇAIS

■ CARACTERISTIQUES (Sujet à changement sans préaris.)

(DIN 45 500)

■ SECTION AMPLIFICATEUR

Puissance de sortie continue de 20 Hz~20 kHz, les deux canaux en circuit	2 × 65W (8Ω)
Puissance de sortie continue à 1 kHz les deux canaux en circuit	2 × 75W (8Ω)
Distorsion harmonique totale	
à puissance nominale (20 Hz~20 kHz)	0,03% (8Ω)
à puissance nominale (1 kHz)	0,8% (8Ω)
à demi-puissance (20 Hz~20 kHz)	0,03% (8Ω)
à demi-puissance (1 kHz)	0,005% (8Ω)
Distorsion d'intermodulation	
à puissance nominale à 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0,03%
Réponse de fréquences les deux canaux en circuit, −3 dB	10 Hz~30 kHz (8Ω)
Bruit et ronflement résiduels	0,7 mV
Coefficient d'amortissement	50 (8Ω)
Sensibilité et impédance d'entrée	
PHONO	2,5 mV/47kΩ
SYNTONISATEUR, AUX/CD/VIDEO (TUNER, AUX/CD/VIDEO)	150 mV/27kΩ
BANDE (TAPE)	150 mV/27kΩ

PHONO (tension d'entrée maximum, 1 kHz RMS)	150 mV
Signal/Bruit	
à puissance nominale (8Ω)	
PHONO	78 dB (IHF, A: 81 dB)
SYNTONISATEUR, AUX/CD/VIDEO, BANDE (TUNER, AUX/CD/VIDEO, TAPE)	89 dB (IHF, A: 98 dB)
Réponse de fréquence	
PHONO	Courbe nominale RIAA ±0,8 dB (30 Hz~15 kHz)
SYNTONISATEUR, AUX/CD/VIDEO, BANDE (TUNER, AUX/CD/VIDEO, TAPE)	10 Hz~120 kHz (−3 dB)
Réglage de la tonalité	
BASSES (BASS)	50 Hz, +10 dB~ −10 dB
AIGUS (TREBLE)	20 kHz, +10 dB~ −10 dB
Tension de sortie et impédance	
Sortie enregistrement (REC OUT)	150 mV
Equilibrage des canaux, AUX/CD/VIDEO 250 Hz~6 300 Hz	±1 dB
Séparation des canaux, AUX/CD/VIDEO 1 kHz	55 dB
Niveau de sortie des casques et impédance	580 mV/330Ω
Impédance de charge	8Ω~16Ω

■ DIVERS

Consommation	360W
Alimentation	
Pour l'Europe	CA 50 Hz/60 Hz, 220V
Autres	CA 50 Hz/60 Hz, 110V/120V/220V/240V
Dimensions (L×H×Pr)	315 × 99 × 245 mm
Poids	5,8 kg

Remarques:
1. On mesure la distorsion harmonique totale au moyen d'un analyseur de spectre digital (Système H.P. 3045).
2. La Société NATIONAL-PANASONIC-FRANCE, importateur du matériel MATSUSHITA-ELECTRIC déclare que cet appareil est conforme aux prescriptions de la directive 76/889/C.E.E. (arrêté 14 Janvier 1980).

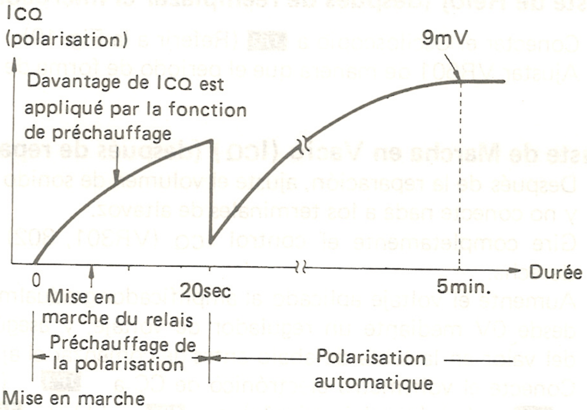
■ MESURAGES ET RÉGLAGES

1. Ajustement des impulsions de rythme (après la remise en place du micro-ordinateur)

(1) Raccorder l'oscilloscope à TP1 . (Se référer à la Fig. 19.)
(2) Ajuster VR601 de telle sorte que la durée de la forme d'onde soit de 2,5μsec.

2. Ajustement de la marche à vide (ICQ) (après réparation de l'amplificateur principal)

(1) Après la réparation, régler le volume sonore au minimum avant la mise en circuit de l'interrupteur d'alimentation, et ne rien raccorder aux bornes des haut-parleurs.
(2) Tourner entièrement dans le sens des aiguilles d'une montre la commande ICQ (VR301 et 302).
(3) Augmenter graduellement la tension appliquée à l'amplificateur à partir de OV au moyen du régulateur de tension, et vérifier la valeur d'après le tableau ci-dessous avant de commencer l'ajustement.
(4) Brancher un voltmètre électronique à C.C. à TP3 (+) et à TP4 (−) (canal de gauche) ou à TP5 (+) et TP6 (−) (canal de droite).
(5) Lorsque 5 minutes se sont écoulées après que le contrôleur d'entraînement "auto" de l'ordinateur se soit éclairé, ajuster VR301 (canal de gauche) ou VR302 (canal de droite) sur 9mV.
* Dans cet appareil, ICQ est contrôlé par le micro-ordinateur et ICQ, un peu plus que le niveau normal, est appliqué par le "PRECHAUFFAGE" ("Preheat") pendant à peu près 20 secondes après la mise en marche. Après cela, le niveau de sortie et la température du transistor sont détectés par "AUTO", contrôlant automatiquement ainsi ICQ.



ESPAÑOL

■ ESPECIFICACIONES (Estas especificaciones están sujetas a cualquier cambio sin previo eviso.)

(DIN 45 500)

■ SECCION AMPLIFICADOR

Potencia continua de 20 Hz~20 kHz en ambos canales	2 × 65W (8Ω)
Potencia continua de 1 kHz en ambos canales	2 × 75W (8Ω)
Distorsión armónica total	
potencia de régimen a 20 Hz~20 kHz	0,03% (8Ω)
potencia de régimen a 1 kHz	0,8% (8Ω)
mitad de potencia a 20 Hz~20 kHz	0,03% (8Ω)
mitad de potencia a 1 kHz	0,005% (8Ω)
Distorsión por intermodulación	
potencia de régimen a 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0,03%
Ancho de banda de potencia con ambos canales, −3 dB	10 Hz~30 kHz (8Ω)
Zumbido residual y ruido	0,7 mV
Factor de amortiguamiento	50 (8Ω)
Sensibilidad e impedancia de entrada	
TOCADISC. (PHONO)	2,5 mV/47kΩ
SINTON., AUX/CD/VIDEO (TUNER, AUX/CD/VIDEO)	150 mV/27kΩ
GRAB. (TAPE)	150 mV/27kΩ
Voltaje máximo de entrada de PHONO (1 kHz, RMS)	150 mV
Relación de señal a ruido	
potencia de régimen (8Ω)	
TOCADISC. (PHONO)	78 dB (IHF, A: 81 dB)
SINTON., AUX/CD/VIDEO, GRAB. (TUNER, AUX/CD/VIDEO, TAPE)	89 dB (IHF, A: 98 dB)

Respuesta de frecuencia	
TOCADISC. (PHONO)	curva RIAA estándar ±0,8 dB (30 Hz~15 kHz)
SINTON., AUX/CD/VIDEO, GRAB. (TUNER, AUX/CD/VIDEO, TAPE)	10 Hz~120 kHz (−3 dB)
Controles de tono	
BAJOS (BASS)	50 Hz, +10 dB~ −10 dB
AGUDOS (TREBLE)	20 kHz, +10 dB~ −10 dB
Voltaje e impedancia de salida	
SAL. GRAB. (REC OUT)	150 mV
Equilibrio de canales, AUX/CD/VIDEO 250 Hz~6 300 Hz	±1 dB
Separación de canales, AUX/CD/VIDEO 1 kHz	55 dB
Impedancia y nivel de salida de los auriculares	580 mV/330Ω
Impedancia de carga	8Ω~16Ω

■ GENERAL

Consumo de energía	360W
Alimentación de energía	
Para Europa continental	CA 50 Hz/60 Hz, 220V
Para otros paises	CA 50 Hz/60 Hz, 110V/120V/220V/240V
Dimensiones (An.×Al.×Prof.)	315 × 99 × 245 mm
Peso	5,8 kg

Nota:
La distorsión armónica total se mide con el analizador de espectro digital (sistema H.P. 3045).

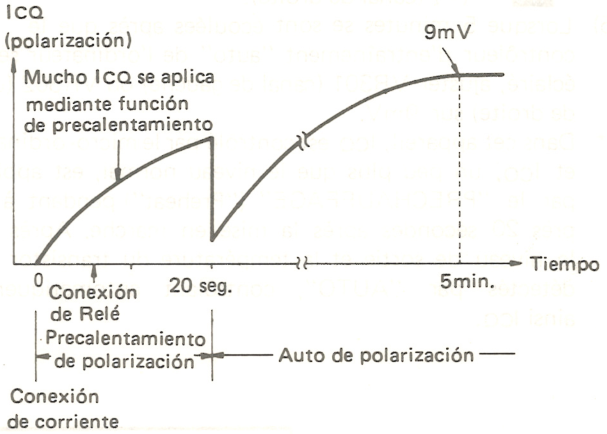
■ MEDICIONES Y AJUSTE

1. Ajuste de Reloj (después de reemplazar el microcomputador)

(1) Conectar el Osciloscopio a **TP1** (Referir a la Fig. 19)
(2) Ajustar VR601 de manera que el periodo de forma de onda sea 2,5μseg.

2. Ajuste de Marcha en Vacìo (I_{CQ}) (después de reparar el amp. principal)

(1) Después de la reparación, ajuste el volumen de sonido al mínimo antes de conectar el interruptor de alimentación, y no conecte nada a los terminales de altavoz.
(2) Gire completamente el control I_{CQ} (VR301, 302) a la derecha.
(3) Aumente el voltaje aplicado al amplificador gradualmente desde 0V mediante un regulador de voltaje, y asegúrese del valor en la tabla de abajo antes de comenzar el ajuste.
(4) Conecte el voltímetro electrónico de CC a **TP3** (+) y **TP4** (−) (canal izquierdo) o **TP5** (+) y **TP6** (−) (canal derecho).
(5) Cuando 5 minutos han pasado después que el "auto" de monitor de impulsión de computador se enciende, ajuste VR301 (canal izquierdo) o VR302 (canal derecho) a 9mV.
* En este aparato, I_{CQ} es regulado mediante computador, y I_{CQ} un poco más del nivel normal se aplica mediante "PRECALENTAMIENTO" por unos 20 seg. después de conectarse la corriente. Después de eso, el nivel de salida y la temperatura de transistor se detectan mediatne "AUTO", regulando así automáticamente I_{CQ}.



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